THE CHEMIST AND DRUGGIST.

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THE TWO SOCIETIES.

THE energetic members of the trade who recently assembled in the Manchester Town Hall to protest against the partial exemption clause of the Juries Bill, will have to reconsider their proposition to make five years' apprenticeship the necessary qualification of a Chemist and Druggist. Those who have the knowledge required for dispensing drugs must not be prevented from pursuing an honourable calling because they cannot produce indentures of apprenticeship. Five years' service behind the counter does not invariably make a man competent to perform the responsible duties of a Chemist and Druggist. A clever lad, by hard study, will soon acquire a practical knowledge of pharmaceutical and general chemistry; while a stupid or idle fellow will pass through a long period of apprenticeship without learning anything but the names and prices of the articles kept in the shop. The examination test of the Pharmaceutical Society is far preferable to this test of apprenticeship, which is directly opposed to the free-trading principles of the United Society.

The Mayor of Manchester, in advocating the latter test, placed a keen weapon in the hands of the accomplished fencer who conducts the *Pharmaceutical Journal*. This doughty champion of the Pharmaceutical Society makes good use of the blade, but does not notice that it has two edges; consequently, in attacking the younger Society, he wounds the body that he endeavours to defend. In plain language, there is an article in the *Pharmaceutical Journal* which claims the attention of the whole trade, and calls for some critical remarks from us.

The writer alludes to the Manchester meeting, and professes to rejoice in the adoption of the principles of the Pharmaceutical Society by its flourishing rival. He calls attention to the great fact—

> That a society, established but two years since, without reference to education and qualification, is now sending its emissaries through the country to forward those objects as the only basis on which they can hope to build such a structure as shall be deemed worthy of recognition by the Legislature.

The United Society was not formed without reference to education or qualification. A college or school was distinctly indicated in the first prospectus, and the principal object of the Society is to elevate the trade to a high standard of scientific proficiency. The pharmaceutical writer thus explains the change which he pretends has taken place in the Society:—

> To trace this conversion to its cause, we need look no further than the Juries Bill of last session, which made so important a distinction between Pharmaceutical Chemists and Chemists and Druggists; giving to the former what some may deem a more valuable privilege than even the exclusive use of a "fancy title." This was an argument too cogent to be resisted; it has at least convinced the United Society that Chemists and Druggists have now no legal standing.

Now the writer must know that indignation, and not conversion, has been the result of the unjust distinction made by the Juries Bill between the legalized Pharmaceutists and the qualified Chemists and Druggists, who still believe that a "fancy title" is the most substantial thing that the Pharmaceutical Society can justly claim. The latter covet not an exclusive "legal standing," but merely demand their rights as citizens, and feel indignant that a clause in the Juries Act should ignominiously bind them to the very service from which it was ostensibly designed to relieve them.

The next paragraph exposes the unfair means by which the Pharmaceutists secured the exemption for themselves only:—

> We are willing to grant that our organization served us on the Jury question. To pretend that Pharmaceutical Chemists, or any other men, should be exempt from serving on juries by reason of their superior education, would be to affirm that one of the most weighty matters of the commonwealth might be left in the hands of the ignorant. It is rather that the preponderance of public safety lies in the advantage of having such men always at command for the exercise of their special callings. In obtaining for ourselves this much-prized exemption, we had two classes of objectors to convince. The one said, "We shall have every man who chooses to sell senna and salts demanding freedom from the service." "Not so," we were enabled to reply; "here is a register of Pharmaceutical Chemists to which no man has been admitted since 1853, or can in future be admitted, without examination." The other met us by the flattering assurance that the withdrawal of our names from the jury list would be a great loss; to this class we had to cite the famous case of Bardell *v.* Pickwick.

If the preponderance of public safety lies in having qualified Chemists always at command for the exercise of their special calling, why have they been excluded from the exemption? Why is the exemption limited to a few individuals who happen to be members of a Society which has not the confidence of the trade?

The complacency with which the writer enumerates the various charges brought against the Pharmaceutical Society is very amusing, particularly as he does not refute these charges. He gives no satisfactory information as to the use made of the Benevolent Fund. Some indiscreet advocate of the Society has stated that this fund amounts to seven thousand pounds. We do not question the truth of this statement, but we ask—What good is done with all this money? Where are the decayed members and the widows and orphans who should be provided for with such a fund? We may be told that the Society has no poor to relieve. Why is this? Simply because the terms of admission practically exclude the poorer members of the trade.

Having quoted that sentence in the Pharmacy Act which states that persons exercising the calling of Pharmaceutical Chemists should possess a competent practical knowledge of pharmaceutical and general chemistry, the writer makes the startling assertion that the want of this qualification is the only bar to admission beyond the ordinary requirement of moral respectability. It is this calumny that has made the trade lose all confidence in the Society. The real bar to admission is hinted at in the following passage:—

> Certain fees were arranged by the Council under authority of the Act of Parliament; but those fees are by no means excessive. For ten guineas a man may attain the full position. It is true that for future union with the Society an annual subscription of a guinea is required, but this entitles the subscriber to certain privileges which cost little short of that sum, besides placing him in the honourable position of a supporter of the institution which has given him, and seeks to give others, a legal standing in his profession. It gives him, too, an interest and authority in the administration of that Benevolent Fund.

We shall not here make any remarks upon the writer's views as to the relative importance of the private and public interests of the trade, for these views are critically examined by an esteemed correspondent in another part of our Journal.

The writer has the effrontery to point to the action of the Pharmaceutical Society with respect to the Juries Bill, as though it constituted a claim upon the confidence of the trade. He reminds the trade of the service rendered by the Pharmaceutical

Society in opposing the Poisons Bill. Why did the Council of the Society flirt with the trade when that oppressive measure was brought forward? Simply because they could not successfully oppose the Bill without its support. In 1862, the Society found it could easily secure exclusive legislation, so it cast off its old flame without the least compunction. Can any one wonder that the trade so treacherously treated should be indignant?

The pharmaceutical writer has no fear that two Pharmacy Acts (meaning, of course, two initiatory Acts,) will ever have place in the same statute-book. He may be certain, however, that there will continue to be a United Society of Chemists and Druggists. The shortcomings and arrogance of the Pharmaceutical Society called it into existence, and the undisguised selfishness displayed on the Juries Bill has greatly stimulated its growth.

The Chemists and Druggists are as a general rule intellectual and respectable men with limited means, who want not a "copy" of the Pharmaceutical Society, with a costly array of Professors, Council, and Clerks, but a society economically conducted, powerful enough to protect them from legislative injustice, and able to elevate them in the public estimation above the level of ignorant dealers in drugs, by means of a voluntary system of education. They need no artificial distinction nor arbitrary test, but they demand a college or school which shall furnish the rising generation of Druggists with the qualifications which are essential to public confidence.

MEDICAL PRACTICE.

THE principal organ of the medical profession has seldom a good word for the class we represent. The pen that runs so gaily over the foolscap, when it has to chronicle the doings of Physicians and Surgeons, splutters in anger when it has to note any movement made by Chemists and Druggists. The writers who palliate all the fatal mistakes of prescribers, magnify the blunders of dispensers into unpardonable crimes; and to give force to their animadversions, they pollute the stream of pure English that flows through the columns of the *Lancet* with the coarse phraseology of Billingsgate. Such expressions as "ignorant fellows," "dabblers in death-dealing substances," and "a rabble of chandler-shopkeepers," are commonly applied by the unscrupulous journalists to the Chemists and Druggists of the United Kingdom. The members of the Pharmaceutical Society are not included in the "rabble;" they are "accomplished and practical gentlemen, who have been duly educated for the responsible task of following the therapeutical indications of Physicians." Of course the writers know that there are ignorant and incompetent persons in both classes of Chemists and Druggists; but they try to persuade their readers that the pharmaceutists have all the knowledge and experience required for dispensing medicine, while those who form the main body of the trade are, with few exceptions, mere ignorant pretenders.

If we were disposed to retaliate, we could easily expose the gross ignorance, the absurd pretensions, the dishonesty, and the profligacy of individual members of that glorious profession represented by the *Lancet*. We could prove that the medical diploma is frequently a passport for the incompetent, and frequently the shield which protects the most mischievous form of quackery. We could trace numerous cases of accidental poisoning to the carelessness of doctors. In fine, we could quote from the columns of the last volume of the *Lancet* a sufficient number of discreditable facts, about medical men, to serve as the foundation for a slashing attack upon the whole profession. Such dirty work, however, is not to our taste. We have great faith in the skill, honesty, and benevolence of our medical men, and should be sorry to use

the errors of the few as missiles to aim at the body. In thinking of the Goodenoughs we forget the Firmins, and we acknowledge that the benevolence of a Watkins outweighs the negligence of a Semple.

The last two names are those of the defendants in two cases lately brought before the Court of Queen's Bench. The case of HALL *v.* SEMPLE made so much noise, that a very few words will suffice to recall its main features. The action was against a medical man for illegally causing the plaintiff to be placed in a lunatic asylum. Another count was for "falsely and maliciously, and without reasonable and probable cause," giving a certificate of insanity; but in the minds of the jury the action resolved itself into one for "negligence in giving a certificate of insanity without taking due and proper care, and making due and proper inquiries." On this count the jury returned a verdict for the plaintiff for £150. They acquitted the defendant of malice, and found him guilty of negligence in giving a certificate of lunacy without due inquiry; so that he was not protected by the Act of Parliament, under which he had acted *bonâ fide*, but without proper precaution. The verdict certainly did not err on the side of severity. For what were the facts? The plaintiff had led for years a life of extreme "incompatibility" with a most uncomfortable wife. Some alleged acts of violence on the part of the plaintiff, such as tearing down the paper from the wall, and flinging a gridiron from one end of the room to another—accompanied by frequent swearing—constituted the case of insanity. The amiable Mrs. Hall, it appears, was willing to take charge of her husband's business, and to pay him a small weekly allowance; but he declined the proposition, and she accordingly charged him with insanity. His neighbours and his oldest friends pronounced him as sane and sensible as he appeared to the jury. So did the physician who had attended the family for twenty-eight years. But the defendant to the action, Dr. Semple, pronounced him insane,—principally, as he said, on the testimony of the wife, of one of her female friends, and of a charwoman; and partly on the strength of an interview with the plaintiff, who had resented somewhat roughly a stranger's inquiries into his domestic relations and affairs. Then there was another medical practitioner, named Guy—(not the well-known Dr. Guy, of King's College)—who was consulted by the wife in 1856, and even then was of opinion that the plaintiff was of a "monomaniacal disposition" and suffering from a "disease of the feelings," because he had told Mr. Guy to "go about his business." This gentleman considered the plaintiff a dangerous madman six years ago, and signed a certificate to that effect, but took no steps to place him in confinement. Dr. Webb was called in by the wife last September, and found the plaintiff in an excited state; but was not prepared to sign a certificate of insanity, though he considered him "under a dominant passion or feeling of dislike to his wife." Such was the medical evidence against the plaintiff, and against the testimony of the plaintiff's regular medical attendant, of his family, and nearest friends. And on such evidence as this the plaintiff had suffered what has been truly described as "the most horrible of all false imprisonments."

It would be easy to turn the facts of this case into weapons for attacking the medical body. If we were as unscrupulous as the writers of the *Lancet*, we might pen some strong sentences upon the culpable negligence, irresponsible power, and dangerous theories of the doctors, whom we might stigmatize as "jackals of the lunatic asylum," or "a rabble of spies and kidnappers." Dr. Semple's easy method of determining lunacy is not, however, the method followed by most medical men; and we will not make unfair use of facts which merely proved that one member of the profession had been grossly negligent.

The case of EVANS *v.* WATKINS, which came before the same court, brought to light facts of a totally different character. The plaintiff, who had been clerk to an attorney at Saffron Walden, brought the action against the defendant, a surgeon in Falcon-

square, Aldersgate-street, to recover damages for alleged negligence and ignorance in his treatment of the plaintiff.

The defendant has been in practice for many years, and has obtained a great reputation for learning, skill, and benevolence. His attention is mainly devoted to rheumatic, neuralgic, and ophthalmic cases; and the lame, the halt, and the blind of all classes, flock to his house as though it were a second Bethesda. The writer of the present article can speak from personal experience as to the value of the peculiar mode of treatment adopted by Mr. Watkins, from having some five years ago been released by it from a most trying rheumatic affection.

The plaintiff, who had been attended by the defendant gratuitously day by day for many weeks, gave a long history of his case, and contended that the exercise which the defendant had ordered him to take had permanently injured the muscles of his legs. Some medical men were called, who stated that in their opinion the treatment adopted by the defendant was highly improper, and they attributed the disabled condition of the plaintiff entirely to the treatment. One of these witnesses enjoys a respectable reputation; but on being examined by Mr. Huddleston as to the meaning of the word "rubefacient," which he uttered so glibly, he stated that it was "something rubbed on." This novel definition did not strengthen the plaintiff's case, which was extremely weak throughout.

The defendant stated that he was a Fellow of the College of Surgeons. He had been engaged for years in endeavouring to discover the means by which he could relieve the sufferings of humanity, particularly in cases of rheumatism and neuralgia. His applications were rubefacients known to the profession. The plaintiff came to him and stated that he was very poor, and could not give him money; that he was suffering great pain in the trunk of his body; that the slightest movement of the body was unbearable, and asked him to try and cure him. Defendant consented to do so without fee, as he always attended the poor gratuitously. The muscles of the trunk were fixed by rheumatism or neuralgia; he treated him as he had treated others. The effect of his applications was beautiful, and he recommended the plaintiff to begin to walk; he increased this walk; told him to fling his arms backwards and forwards. Finding he was so much improved, and wishing to bring all the muscles into play, he recommended him to ride to the bottom of Highgate-hill, to walk up and down the hill, and then walk home, so as not to catch cold—not to loiter, to get home, change his clothes, and go to bed. On the last occasion of the plaintiff coming to him he was in great pain in his feet and the back of his legs. It was a similar attack to that which had previously struck the muscles of the abdomen. It was neuralgia or rheumatism. The pathology of rheumatism was not understood. The disease in the legs was caused by cold. The defendant might have been cured had he continued under the treatment.

Mr. Frederick Skey, surgeon of St. Bartholomew's Hospital, stated that he had heard the evidence that had been given in this case. The treatment pursued by the defendant appeared to him to have been eminently proper, presuming the disease to be, as he himself believed it was, neuralgic rheumatism from first to last. Over exertion could not have produced such symptoms. He knew the defendant as a highly respectable, benevolent, intelligent, though somewhat eccentric gentleman. He had placed himself under him when suffering from sciatica, and had received good service.

At this point the jury stopped the case by saying they thought the action ought not to have been brought. The learned judge, Mr. Justice Crompton, said he agreed with them, and regretted that Mr. Watkins should have had the trouble and expense of defending such an action.

We are sorry that the case was stopped, for the President of the Royal College

and many well-known surgeons and physiologists were waiting to speak for Mr. Watkins. Besides these medical gentlemen there were numerous grateful patients who could have told some startling stories about the cures accomplished by the good magician of Falcon-square. The writer of these words was among them, so also was Dr. Scoffern, the famous Chemist. The latter, wishing to bear public testimony to the value of the system adopted by Mr. Watkins, addressed the following letter to the editor of the *Morning Post*:—

SIR,—If you can afford space to receive my testimony on behalf of one who has done me signal service, and against whom an act of deep ingratitude has been perpetrated, I should feel much obliged.

During the past three days I have been in attendance at the Court of Queen's Bench for the purpose of giving evidence in the case of "Evans *v.* Watkins," the plaintiff seeking to make good the allegation that he had been permanently injured through the malpraxis of Watkins—the latter a highly educated member of the medical profession, a gentleman not merely qualified, but one upon whom the honour of fellowship of the College of Surgeons has been bestowed. The allegation was so thoroughly untenable that, on hearing the evidence of Mr. Skey, surgeon to St. Bartholomew's Hospital, the jury stopped the case, and returned a verdict for the defendant. Some strong remarks, participated by the judge, accompanied the verdict. The injustice of submitting medical men to actions of this sort was pointed out, and the ingratitude of this particular case was signalized, the plaintiff having received advice gratuitously during several months.

The cause being thus summarily disposed of, Mr. Watkins lost the advantage that might have accrued from the evidence of the President of the College of Surgeons, of Dr. Billing, and other gentlemen of high professional rank. For myself, not being in medical practice, though a medical graduate—my testimony would have been deservedly of small value, save for the circumstance that, a martyr to rheumatism until chance threw me in the way of Mr. Watkins, I can speak personally as to the value of a system the presumed demerits of which constituted the basis of the adverse plaint. I extremely regret this premature withdrawal of the case did not admit of my stating to-day what I venture to hope your courtesy will permit me to state now, that having been a martyr to rheumatism for more than 15 years preceding last May—having been brought to death's door four times through acute rheumatism (rheumatic fever) since 1852—having resolutely tried every remedy suggested by a large circle of professional friends—the Nessian shirt of Mr. Watkins (so to call it) alone has wrought me the slightest good. I am now quite well, save and except a little puffiness, an incipient stoutness attributable as it seems to the exorcism of my evil spirit.

Mr. Watkins is so enthusiastic on behalf of his system—so confident—that he must pardon me if I accuse him of a little arrogance. He tells me, for instance, he can cut short an accession of acute rheumatism (rheumatic fever) *quasi* infallibly. The word infallible, with its derivatives, is not much approved in my profession. The medical friends of Mr. Watkins could even wish he used it less; still in my own case (a very bad one, as my friends know) his promises have been amply justified. The pain induced by Mr. Watkins's *san benito* is indeed severe—a fiery burning pain, that might be made to convey to torpid minds pregnant suggestions of a future contingency. Curious to state, however, the burning sensation speedily ceases, and the patient, who awhile ago must have fancied himself blistered all over, the skin only waiting to peel off, discovers his cuticle sticking fast and only reddened. In point of fact, the application is of the class formerly called "rubefacients." To-day, however, we expectants before the tribunal of justice learned, on the authority of a medical gentleman resident in an educational college where Latin is taught under a new light, that the word "rubefacient" means some application rubbed upon the face—lamp-black and tallow, for instance, such as Caucasian banjo-players use when going forth as Ethiopians.

Thanking you for the insertion of this, if your politeness gives me cause, I have the honour to be, sir, your obedient servant,

J. SCOFFERN, M.B., Lond.,
Late Professor of Chemistry and Forensic Medicine
at the Aldersgate School of Medicine.

The two cases which we have reported exhibited, respectively, the dark and the bright side of medical practice. On the one side might be seen a Semple, writing a certificate to deprive a man whom he had not properly examined of his liberty; and on the other a Watkins, doing his best to alleviate the sufferings of an ungrateful patient who professes to have no money, and who, in the end, repays his benefactor by an action at law.

Now, if we were to look only at the dark side of medical practice, we should do exactly what the writers of the *Lancet* do when they have to notice the trade of the Chemist and Druggist. Some young assistant sells an ounce of oxalic acid for an ounce of salts, and the scribes of the *Lancet* at once inveigh against all the members

of the trade, and cry out for some stringent legal enactment to put a stop to "free trade in poisons." We ask these gentlemen to count the Chemists and Druggists of the United Kingdom, and then to consider how rare are the cases of accidental poisonings for which they are answerable.

ADULTERATION OF WAX.

BY BARNARD S. PROCTOR.

Wax, both in its bleached and unbleached conditions, is much subject to adulteration, so much so, that the purity of foreign yellow wax is always considered as very doubtful, and the *impurity* of white cake wax is generally looked upon as almost certain. The foreign matters fraudulently occurring in either variety may be divided into two classes: those which are fusible or soluble in melted wax, at water-bath temperature, and those which remain solid or unmixed with the melted wax under these circumstances. The latter, being so easily detected, are much less frequently present, and require no special notice at present. Resin, fat, and spermaceti are the principal materials to be looked for in the former class. Christison and Pereira both refer to all these materials, and instruct us to examine for resin by the action of cold alcohol, which they say removes nothing from pure wax; this, however, will be looked upon with doubt, since recent analyses of wax show that one of its principles (cerolein) is soluble in cold alcohol. It constitutes four or five per cent. of the wax; it is of a greasy nature, and imparts colour, odour, and tenacity, which are wanting in the other two constituents (cerotic acid, the amount of which varies from 22 per cent. downwards, and myricin, which forms the great bulk of the material).

Fatty matters are to be detected, according to the above authors, by the softness, stickiness, the odour and the taste which they impart. Spermaceti, which we are informed is constantly added to white wax to improve its colour, is passed over without any means for its detection being suggested; this, no doubt, arises from the analogy in the chemical characters of the two materials affording no ready means by which to recognise an admixture, and from the fact that, pharmaceutically and therapeutically, there is no great difference in the properties and value of the two.

It is a deception, however, which is only tolerated, either in pharmacy or commerce, from the difficulty of obtaining any decided results from any examination not too complicated for the purposes of the retail trader.

A close attention to the physical properties of the sample probably affords the only means of determining its quality, which is suitable as a guide to the tradesman in making his purchases from the wholesale dealer. The following results will be found useful as a guide to the presence and probable quantity of the above adulterants. Good samples of yellow wax and genuine white block wax were melted in a water-bath, with spermaceti, pale amber resin, and lard, in various proportions, as below:—

No. 1.	Yellow wax	8	Spermaceti	1
,, 2.	,,	8	,,	2
,, 3.	,,	8	Lard	2
,, 4.	,,	8	Resin	2
,, 5.	,,	8	,,	1
,, 6.	Block white wax	8	Spermaceti	2
,, 7.	,,	8	,,	1
			Resin	1
,, 8.	,,	8	Lard	1
,, 9.	,,	8	Spermaceti	8
,, 10.	,,	8	,,	24
,, 11.	,,	8	,,	8
			Lard	4

All these additions detracted from the hardness and toughness of the wax. The yellow wax was "improved in appearance" by all the additions; its odour was not perceptibly affected by the spermaceti; the lard gave it a slightly greasy smell; the resin was distinctly perceptible in the larger proportion, barely so in the smaller. The white wax was improved in appearance by the spermaceti and lard, but injured by the resin. The odours of the lard and resin were more readily detected in the white than in the yellow wax. In both cases the odour of the lard was more readily detected by rubbing the sample upon a plaster spatula heated a little above 212°, but not so hot as to make vapours rise from the wax, the odour of the resin was very distinct when sought in this way, and not less so when the heat was raised to the smoking point.

The rough mealy fracture of pure wax is rendered finer-grained, smoother, and duller, by the addition of lard or spermaceti, and becomes sparkling and more granular by the addition of resin.

Pure wax becomes kneadable at about 85°, and its behaviour, while worked between finger and thumb, is characteristic. A piece the size of a pea being worked in the hand till tough with the warmth, then placed upon the thumb, and forcibly stroked down with the forefinger, curls up, following the finger, and is marked by it with longitudinal streaks. The samples Nos. 1 and 2, when worked in the same manner, are softer, curl less by the stroke of the finger, and instead of longitudinal streaks have a granular or flaky surface. No. 3 spreads on the thumb like cerate. No. 4 is softer than the pure wax, more sticky, spreads more readily, curls less, but takes the longitudinal streaks. No. 5, very similar to No. 4. No. 6 is like Nos. 1 and 2 in consistence. No. 7, soft, sticky, and of a bad colour. No. 8 spreads like cerate. No. 9, softer than pure wax, capable of being spread with the finger, curls less than pure wax, and takes a granular, mealy surface. No. 10 crumbles into a mealy condition when kneaded. No. 11 spreads like cerate. Perhaps new yellow soap affords the best comparison for the sticky feeling of the samples containing lard, and also of the manner of their spreading on the thumb when rubbed.

From a comparison of the samples Nos. 9 and 10 with white cake wax, as supplied by wholesale houses of the highest reputation, I am satisfied that in many cases it is half spermaceti, and in some as much as two-thirds spermaceti to one of wax, which is supplied to us under this name.

MOULDS FOR LUNAR CAUSTIC AND SIMILAR SUBSTANCES.

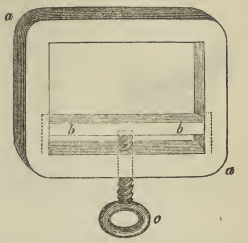
BY THE EDITOR.

Mr. Alfred Benzon, of Copenhagen, has kindly furnished us with drawings of the novel caustic moulds which were shown by him at the International Exhibition. These moulds are in every respect superior to those commonly employed, and we have much pleasure in introducing them to the manufacturing chemists of England. Mr. Benzon's case, which contained a beautiful collection of chemical and pharmaceutical products, was placed in an obscure corner of the South Kensington maze, and consequently was overlooked by the majority of visitors. Our attention was directed to the moulds by an article in the *Pharmaceutisk Tidende*, from which we gathered the information we are now about to impart to our readers.

Sticks of caustic are generally cast in moulds formed of iron, brass, or bronze. Each block of moulds consists of two halves, which form when united six, twelve, or more cylindrical cavities, conical, flat or concave at bottom, and connected by a common channel for filling at top. In diameter the moulds vary considerably—from one-twelfth to a quarter of an inch. Those in one block are generally all of the same size; sometimes, however, they are of different sizes; thus in a block of twelve moulds, half the number may be one-sixth of an inch, and half a quarter of an inch in diameter. When there are

moulds of two sizes, the filling channel is usually divided by a partition, so that those of each size may be used separately. The two halves of the block are held together by screws or clamps. In the illustration given by Mohr,* two screws are shown, one close to each edge of the block. Instead of screws, clamps of various patterns are used. The simplest is a common iron spring clamp, shaped something like a pair of sugar tongs, but this is not so trustworthy as the clamp which is provided with a screw to press upon the centre of one of the sides. Another form of clamp consists of two bars of iron connected by screws at both ends, the block of moulds being placed between the bars. The most convenient, but at the same time the most expensive clamp, is that devised by Mr. Benzon, and shown in Fig. 1. It consists of a rectangular frame of iron, *a*; a moveable bar, *b*, the ends of which fit in slots; and a screw for pressing the bar against the mould-block. This clamp may be used with very fragile moulds, as its pressure is distributed over a large surface. On one-half of the mould-block there are from two to four studs, and on the other corresponding holes, to prevent slipping. The studs can be dispensed with if the halves are connected by hinges at the bottom. Mr. Benzon states that he has used a hinged block for fourteen years, and can recommend it as especially convenient in many cases. It has six large and six small moulds with a divided channel, and is fitted to a double bar clamp. Mohr's planed iron moulds, are much used on the Continent, and are in many respects superior to the moulds formed in cast-iron or brass. They are constructed by planing semicircular grooves in a long smooth iron plate, and then cutting the plate across into several pieces of the same length. Two of these pieces, put together in a suitable pressure frame, form a block of moulds. As the holes go right through the block, a plate of metal, glass, or stone must be placed beneath them when the fused caustic is poured in. These blocks are recommended for the beautiful smoothness and uniform size of the moulds.

Fig. 1.



To prevent the caustic sticking to the moulds, or acting upon the metal, various means have been tried. The Edinburgh Pharmacopœia directed that the moulds should be slightly greased with tallow, and some writers on practical pharmacy recommended rubbing them over with magnesia or pulverized talc. These plans proving insufficient, the practice of silvering or gilding the mould-plates came into fashion, but it was found that the film of noble metal soon wore off. Mohr recommends the application of a varnish of asphalte to the inner surface of the mould-plates, made red-hot. Coal pitch dissolved in coal naphtha, or simply coal-tar, may be used instead of this varnish. None of these carbonaceous coatings can, however, be depended upon, especially if the moulds are used for the caustic alkalies. The only metallic moulds which may be safely employed to cast the latter are those of silver. These, however, are very expensive, and have the defect common to all—they soon get so hot that the process of casting has to be stopped.

The inconveniences attending the use of metallic moulds, induced Mr. Benzon to try moulds formed of stone. He had heard that serpentine had been used to form moulding blocks, but on putting this stone to the test he found that it would stand but little heat. Knowing that pulverized talc was often employed to rub over the surface of the metallic mould-plates, he thought it would be worth while to make some experiments with moulds formed in blocks of massive white Bohemian talc. With these trial mould-blocks he obtained most satisfactory results, and after using them for nearly six years, he commenced to manufacture them for sale. Their construction may easily be explained

* *Lehrbuch der Pharmaceutischen Technik.*

by the aid of the accompanying woodcuts. All the figures are drawn one-third of the actual size. In Fig. 2, A is the mould-block of talc, and B, the screw clamp, which may be formed either of iron or steel. If steel be used, it should be blued to prevent it from rusting; if iron, it should be varnished. The end of the screw and the opposite part of the clamp may be covered with leather or some other soft substance, to prevent the iron injuring the stone. Instead of studs and holes, two rods of wood, c, are used to keep the two halves of the block in position. The vertical rod does not pass right through the block, so that there is no danger of its falling out when the block is raised from the table. At first Mr. Benzon used metal rods, but he found that they expanded more than the talc when heated, and sometimes cracked the block. Fig. 3 shows one-half of the mould-block, and the arrangement of the six moulds and regulating grooves. Three of the moulds are conical at bottom, for pointed sticks of caustic, and the other three rounded. The figures 4 and 5 represent the regulating rods which fit into the vertical and horizontal grooves. They are of improved construction, being provided with heads, which make them fit the block more firmly than those shown in Fig. 2. Fig. 6 represents a talc block for moulding bars of caustic with sharp edges. The moulds are closed by a flat plate of talc cut at the bottom, so as to exactly fit the inclined foot-piece shown in the engraving. On the upper part of this movable side or cover is cut one of the slanting sides of the channel for filling the moulds. A clamp keeps the mould-block and its cover together. The moulds for the caustic sticks, either round or square, may be made considerably larger than those represented at one-third the actual size in figures 3 and 6; but they must not be very deep, as the fused material is apt to congeal before it gets to the bottom. The talc mould-blocks are not injured by the caustic, and do not require to be greased. They do not get inconveniently hot

Fig. 2.

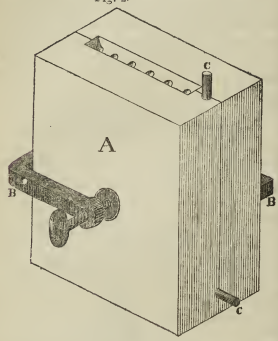


Fig .3.

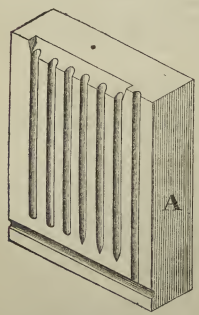
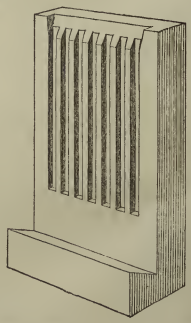


Fig. 4.

Fig. 5.

Fig. 6.



like the metallic blocks, but may be used uninterruptedly for a long time. We may remind our readers that talc in its massive form is so soft that it can easily be worked into any desired form. The Bohemian talc is white, and has the pearly lustre and unctuous touch peculiar to magnesian minerals. Mr. Benzon has also constructed moulding-blocks of Greenland elæolite, and of English slate. The former is a mineral of the Scapolite family, having a dull, opalescent lustre; it is the *fettstein* or fatstone of Werner. This is quite as well adapted for moulding-blocks as talc. The slate blocks are the strongest and most durable; but as slate is a good conductor of heat, they soon become hot. This defect, added to the difficulty of working, places slate far beneath the other two materials, though it deserves to rank above the metals of which caustic moulds are usually formed.

NEW REMEDIES.

BROMIDE OF AMMONIUM.

HYDROBROMATE OF AMMONIA.

At the late meeting of the British Association for the Advancement of Science, held at Cambridge, a paper was read by Dr. Gibb, "On the Physiological Effects of the Bromide of Ammonium." He said that, "although not complete, his experiments were sufficiently positive in their results to justify him in bringing the subject before the Association."

This salt, he stated, had a tonic, sedative, or anti-spasmodic action, according to the quantity given and the mode of administration; and the structures affected by it were the skin and mucous membrane, and fatty compounds. In producing anæsthesia of the fauces, it was superior to the bromide of potassium, and possessed the power of diminishing fat in the economy, and influencing the arrest of atheromatous changes; and he thought it would ultimately be found of more value for the reduction of corpulency and allied states than any other substance at present known. It has been found to be very useful in some of the milder forms of skin disease, and of equal value with the bromide of potassium as an absorbent in glandular and other enlargements, and superior to it, in some respects, in the treatment of some other forms of disease. Dr. Gibb has also employed it in epilepsy with marked benefit, and also in cases of strumous ophthalmia in the young. Bromide of ammonium is a white prismatic salt, becoming yellow and slightly acid by exposure to air. It is very soluble in water, but only sparingly soluble in alcohol. It is composed of one atom each of bromine and ammonium.

RED GUM—A NEW VEGETABLE ASTRINGENT.

Under this name a substance has been recently introduced as a medicinal agent which is said to possess very powerful astringent properties.

It is stated to be the produce of a species of *Eucalyptus*, a native of Western Australia. The Eucalypti are a genus belonging to the natural family *Myrtaceæ*—the Myrtle order—the plants of which generally contain fragrant volatile aromatic oil, and frequently astringent matter. One of the species of this genus, E. Resinifera, the Brown Gum-tree, or Iron Bark-tree, a native of New Holland, already furnishes us with the astringent substance known as "Brown Gum," or "Botany Bay Kino;" and another, E. Robusta, is remarkable for yielding a most beautiful vermilion-coloured gum. In appearance, "Red Gum" much resembles Gum Kino of the shops, but has more of a crimson red colour. It is soluble to some extent in cold water, and the solution possesses an astringent taste. In boiling water it is more soluble, but the filtered solution becomes turbid on standing. Both solutions of Isinglass and Perchloride of Iron cause precipitates; that caused by the latter being of a blackish colour. In alcohol it is almost entirely dissolved, yielding a solution having a fine colour, which, on being poured into water, deposits a crimson powder. Ether dissolves it only partially,

and the solution on evaporation leaves a residue of a splendid crimson red colour. "Red Gum" is reported to have been employed by Sir Reynold Martin with great success as an astringent.

SARRACENIA PURPUREA.*

Synonyms.—Indian Cup, Indian Pitcher plant, Fly Trap, Frogs' Leggings, Huntsman's Cap, Huntsman's Cup, Purple Sidesaddle flower, Trumpet plant, &c.

At a meeting of the Epidemiological Society, November 4th, 1861, a paper by Herbert Chalmers Miles, Esq., on an "Indian Remedy for Small-pox," was read, specimens of the plant being at the same time presented to the Society, and given to Mr. Marson, at the Small-pox Hospital, with a request that he would use them on the first opportunity. Mr. Miles's paper afterwards appeared in the Medical Journals.†

Subsequently, Dr. F. W. Morris, of Halifax, Nova Scotia, in a letter to the *American Medical Times* of May 24th, 1862, claims to have been the first medical man who employed the remedy in the treatment of small-pox, in which he found its powers as a remedy to be marvellous; both these gentlemen, however, agree to having obtained their knowledge of this remedy from a squaw of the Mic-Mac Indians, who appears to have been for some time acquainted with its virtues as a remedy for this dreadful disease.

Mr. Miles‡ states that while stationed at Halifax, as Surgeon to the Royal Artillery, a most destructive epidemic of small-pox broke out, which proved particularly fatal to the Indians and coloured people generally; when a squaw of the Mic-Mac tribe of Indians "appeared in the disease-stricken camp, possessed of a preparation which had the extraordinary power of curing the kind of cases that had hitherto proved so fatal. This remedy was believed by the Indians to be so efficacious, that if given to them when attacked by small-pox, they looked forward to a speedy and effectual cure."

This squaw had always been known as the doctress of her tribe, and had long enjoyed great celebrity among the Indians, who resorted to her when sick in preference to consulting the white doctors, whom they thought "no good." Captain Hardy, of the Royal Artillery, who, Mr. Miles says, had been for years amongst the Indians, states, "that the old squaw's remedy has long been known amongst them as an infallible remedy for small-pox, and that the Indians believe it to be successful in every case."

Dr. Morris says that he received the root on the 17th of April, 1861, from a Mic-Mac squaw, brought to him by his friend Mr. Lane. This squaw stated on oath that the remedy was known only to herself and an old squaw named "Sally Paul," who had adopted her and brought her up; and who, she stated, had cured several soldiers in one of the regiments stationed in the garrison in Canada, thirty-seven years ago. The plant is also stated to have been imperfectly known for some years to that branch of the profession known as "Eclectics."

Botany.—The roots are fibrous, the leaves are generally six in number, sometimes more, and from six to nine inches long; ascending, arcuate, petiolate below, and afterwards swelling out into a hollow, tubular, somewhat horn-shaped cavity, with a very broad arched wing externally, and terminated above by a broad, erect, cordate lamina, the inside of which is lined by retrorse hairs. They spring from the rhizome, and vary greatly in their colour according to their age, being of a fine green colour in the spring, which gradually changes to a purplish hue, and, ultimately, as autumn approaches, to a dark brown; in consequence of its peculiarities, the plant is frequently cultivated in botanical and other gardens. The flower stalk, or scape, rises direct from the rhizome, and is one or two feet high, round, smooth, and one-flowered. The flower is large, nodding, and of a purplish red colour, and blossoms in May and June. It is an herbaceous perennial belonging to the natural order *Sarraceniaceæ*—the Sarracenia, Water Pitcher, or Sidesaddle flower order—a family of boggy plants, of whose properties but little

* We notice that our contemporary has treated of the same subject as ourselves this month; our own article, however, was in hand prior to the issue of the journal. We have made one or two extracts from Professor Bentley's excellent and comprehensive article.

† *Lancet*, Dec. 7, 1861; *Medical Times and Gazette*, vol. ii. for 1861, p. 543; and *Pharm. Journal*, 2nd ser. vol. iii. p. 323.

‡ *Lancet*, Dec. 7, 1861, p. 560.

is known. "It is a native of Canada and the States of North America, where it has an extensive range spreading from Florida to Newfoundland; it is met with most commonly in the Northern States, and is not found west of the Alleghanies. It is only found in North America."* According to Dr. King, of Cincinnati, several varieties are found in the swamps of Massachusetts and in the south, all of which probably possess similar properties.

CHEMISTRY.—The rhizome has a bitter and astringent taste, and when in the dried state and bruised, has a faint peculiar odour, which becomes more developed on moistening with a little water. The leaves have a peculiar odour, and when chewed have at first but little taste, but ultimately develop a bitter flavour. No analysis of either rhizome or leaves appears as yet to have been published. But Professor Sheppard, of the United States, examined the rhizome of an allied species some years ago, and found it to contain colouring matter, resin, an acid salt of lime, lignine, and a salt probably of an organic alkali; and it is probable that the composition of the Sarracenia purpurea would not greatly differ.

COMPARATIVE VALUE OF RHIZOMES AND LEAVES AS MEDICINAL AGENTS, ETC.—Great difference of opinion exists as regards the medicinal activity of the different parts of this plant; some assert that the rhizomes alone possess any remedial powers against small-pox, and others maintain that other parts of the plant possess equal activity.

Mr. Miles† states that "the Indian authority for its use asseverates, with peculiar emphasis, that the *root* (rhizome) alone is efficacious in small-pox; and that the preparations of the leaves are *useless* in *that* disease." Dr. F. W. Morris writes :‡ "The most obvious and unmistakable feature of the Sarracenia as to taste is its decidedly 'willow flavour,' so like the 'Salicin,' that any one would take its infusion for that of the alkaloid named. Whatever part of the Sarracenia imparts to the tongue this willow flavour, may be relied on for the cure of variola. The roots, young or old, all exhibit this flavour, as also the rootlets, rhizoma, radicles, and even the loose flocculi of the epidermis that so easily separate from the plant by friction. I have used them all in my cases equally with success."§ From experiments made by Mr. Tichbourne upon himself,§ he came to the conclusion that there was no essential difference in the action of the leaves and rhizomes upon the kidneys, and he accordingly recommends their employment indifferently. Mr. Bentley‖ remarks, "So far as I have been able to examine these respective parts, both chemically and physically, I should say, that if the Sarracenia possesses the virtues ascribed to it as a remedy in small-pox, both rhizomes and leaves will be found almost equally efficacious; but I should be inclined to give a slight preference to the rhizomes. The efficiency of both, however, will greatly depend upon the periods in which they are respectively collected." The rhizomes should be obtained late in the autumn, after the leaves have withered, or early in the spring, before active vegetation has commenced; and the leaves about the month of May, or just before the flowering takes place. According to Mr. Miles,¶ " the directions urged to be adopted are, that the root when fresh gathered should be at once slowly and thoroughly dried, the thin fibres around it pared away, and the firm solid root alone used.

MEDICINAL PROPERTIES AND USES.—Professor Cleaveland, of the United States, found the Sarracenia useful "in cases where there was a sluggish or torpid condition of the stomach, intestines, liver, kidneys, uterus, and the various functional derangements;" and thinks it "evident that the plant possesses valuable properties," and that "it is even possible that a new salt similar in importance to morphia or quinia may be extracted from it." Mr. Miles** gives the following as the most marked results of the administration of this remedy to persons already covered with variola. 1st, Rapid diuretic action, with immediate lessening of the febrile symptoms; and, more tardily, it acts as an evacuant on the large intestines. 2nd, On a repetition of a dose of the

* *Pharm. Journal*, vol. iv. 2nd ser. 296.
† *Lancet*, Dec. 18, 1862, p. 630.
‡ *Lancet*, Dec. 6, 1862, p. 638.
§ *Dublin Medical Press.*
‖ *Pharm. Journal*, vol. iv. 2nd ser. p. 300.
¶ *Lancet*, Oct. 18, 1862, p. 430.
** *Lancet*, Oct. 18, 1862, p. 431.

decoction (which perhaps should be given after three or four hours, instead of at longer intervals), the mitigation and obvious improvement, should any symptoms of cerebral disturbance be present. 3rd, Its extraordinary effect, within a brief period, in altering the *character* of the cutaneous eruption. It seems to arrest the morbid process, and induce a healthy instead of a diseased action. The pustules appear simply to be deprived of their vitality; they desiccate and fall off. 4th, The prevention of pitting, consequent, it may be supposed, on the whole nature of the pustule being changed in the manner just noticed. In all practicable instances it is desirable that the administration of the decoction should be commenced so soon as well-defined symptoms of variola are declared, and that no other medicine (save a purgative, if absolutely indicated) be given." From information gathered from the Indians, he says that the Sarracenia was not only a certain cure for the small-pox, but also very valuable as a preventive of that disease; and that it is customary, "when the people are exposed to infection, for them to keep a weak infusion of the root prepared, and take a dose occasionally during the day," so as "to keep the antidote in the blood." Dr. Morris* states that "it is the remedy for small-pox in all its forms, in twelve hours after the patient has taken the medicine. It is also as curious as it is wonderful that, however alarming and numerous the eruptions, or confluent or frightful they may be, the peculiar action of the medicine is such, that very seldom a scar is left to tell the story of the disease." Again he says, "I have no hesitation in pronouncing Sarracenia purpurea to be the remedy for variola, varicella, rubeola, lepra, and psora. I have used it with unqualified success in these cases. It not only *relieves*, but it *extinguishes*, and, what is more, in any given instance, it is sure to emancipate from subsequent abnormal developments as a general rule. In psora, lepra, and skin disease, I have little or no trouble, and find a liberal use of the chloride of calcium a very decided auxiliary and quickener of the Sarracenic virtues in skin treatment. It would be just as well to mention, that any person carrying with him the root of the Sarracenia, may *chew* his way with perfect impunity through small-pox, wherever it may stand in his path. I sincerely hope it may be so with plague, Asiatic cholera, or any other scourge." Mr. Miles brings forward no cases of his own treatment of small-pox with this remedy, but has published four cases in the *Lancet*,† which are stated to have been successfully treated by Mr. S. K. Burch, of London. According to Dr. Morris, he has used it with the most gratifying success in a great number of cases. On the other hand, it has been tried at St. George's Hospital without the slightest effect upon the disease, and letters have appeared in the Medical Journals‡ denying that it possesses any effect whatever in small-pox; and it is reported§ that at a recent meeting of the Medical Society of Nova Scotia, held at Halifax, the subject was discussed, and a resolution passed to the effect that there were not "any reliable data upon which to ground any opinion in favour of its value as a remedial agent."

A committee of the Epidemiological Society, including Mr. Marson, are said to be making a searching investigation into the merits of this plant as a remedy for small-pox, and many others are also testing its virtues in public and private; and we shall doubtless shortly be made acquainted with the results of their investigations.

Preparations and Doses.—It has been administered in powder, and in the form of infusion, decoction; and tincture, but there are no recognised formulæ for any of these preparations. The following form for an infusion is given in the *Pharmaceutical Journal*. Take of Sarracenia rhizomes or leaves, ʒss.; boiling water, ℥j.; macerate for four hours, and strain. Dose, from one to two fluid ounces. A formula for a liquor, or tincture, will be found in our last number,‖ in an article communicated by Mr. Charles R. C. Tichbourne.

* *Pharm. Journal*, vol. iv. 2nd ser. p. 87, and *Lancet*, Dec. 6, 1862, p. 638.
† Dec. 6, 1862, p. 616.
‡ *Lancet*, Nov. 29, 1862, p. 604; Jan. 10, 1863, p. 42; and *Medical Times and Gazette*, Dec. 20, 1862.
§ *Pharm. Journal*, 2nd ser. vol. iv. p. 234, from *British American Journal*. ‖ Vol. iii p 357.

OXYGENATED WATER.

To prepare perfectly pure oxygenated water, Duprey recommends* that a very rapid current of carbonic acid be passed through distilled water, and from time to time small quantities of finely-powdered peroxide of barium projected into the liquid; when the quantity of carbonate of baryta formed is so great as to hinder the passage of the gas, the clear liquid is decanted and the operation repeated. In this way a solution is obtained which is strongly charged with neutral binoxide of hydrogen, which may be concentrated under the air-pump receiver. It is necessary that the current of the gas be very rapid, so that it be in excess as regards the binoxide. Chevreul has made some experiments on the effects of the solution on vegetable colours, and finds that it acts upon them like chlorine, only more slowly.

MILK: BOEDECKER AND HASSALL.

Our great daily contemporary lately announced that Professor Boedecker had just completed a series of experiments on milk, which being conducted on quite a new principle, had elicited many fresh facts respecting the composition of this important liquid. "The question he proposed to himself"—we quote the words of our contemporary—"was whether milk obtained at any hour of the day always presented the same chemical composition or not; and he has arrived at the result that the milk of the evening is richer by 3 per cent. than that of the morning, the latter containing only 10 per cent. of solid matter, and the former 13 per cent. On the other hand, the water contained in milk diminishes by 3 per cent. in the course of the day; in the morning it contains 89 per cent. of water, and only 86 per cent. in the evening. The fatty particles increase gradually as the day wears on. In the morning they amount to 2·17 per cent.; at noon, to 2·63; and in the evening to 3·42 per cent. This circumstance, if true, would be very important in a practical point of view. Let us suppose a kilogramme of milk to yield only the sixth part of its weight of butter; then the milk of the evening may yield double that quantity. The caseous particles are also more abundant in the evening than in the morning—from 2·24 they increase to 2·70 per cent., but the quantity of albumen diminishes from 0·44 to 0·31. The serum is less abundant at midnight than at noon, being 4·19 per cent. in the former case, and 4·72 in the last."

Dr. Arthur Hill Hassall, who never misses an opportunity of blowing his own trumpet, has addressed a letter to our contemporary, in which he takes credit for having published results of a similar character long ago. Though we have no great faith in the popular analyst, we must confess that he has most satisfactorily established his claim to the supposed discovery of Professor Boedecker. We reprint the greater part of his letter:—

"In my report on the adulteration of milk, published in the *Lancet* in 1851—that is, 11 years since—I gave the results of the analysis of a number of samples of morning and afternoon milk, obtained from different cows; and from these it appeared that while ten samples of morning milk furnished collectively 77½ per centages of cream, the average of the whole being 7¾, the same number of samples of afternoon milk taken from the same cows gave 96½ per centages, the average being 9¾. The curd in the first series of samples amounted to 693, and in the second to 810 grains. Thus I have found the difference to be even greater than that stated by Dr. Boedecker. But, further, at the period referred to I made the somewhat singular observation that the composition of

* *Phil. Mag.*, from *Comptes Rendus.*

milk varies still more at different periods of even the same milking, the milk last drawn from the udder being always much richer than that first abstracted. Thus, while eight samples of the afternoon milk first drawn furnished 61½ per centages of cream, that last removed amounted to no less than 147½ per centages. These facts are pregnant with practical importance. Upon this part of the subject I must not enlarge, but will merely refer to the common practice which prevails for invalids to procure their glass of milk direct from the cow. The milk thus obtained must, as we have seen, be of the most uncertain composition, according as it is the first or last milk drawn. If the former, it will be exceedingly poor in cream, &c.; and if the latter, exceedingly rich."

POWERFUL OXIDIZING MIXTURE.

Bœttger calls attention to a remarkable property possessed by a mixture of oil of vitriol and permanganate of potash, which furnishes one of the most powerful oxidizing agents hitherto discovered. Ether, alcohol, essential oils, and other inflammable substances are fired by simple contact; sulphur is oxidized to sulphuric acid with a rustling noise. The mixture is prepared with two parts of the permanganate and three parts of oil of vitriol. If a small portion be placed in a flask, the contained air is constantly ozonized.*

SPECTRUM ANALYSIS IN THE MANUFACTURE OF STEEL.

We learn from a literary contemporary† that a practical application is likely to be made of the beautiful results of spectrum analysis in an important department of our national manufactures—that is, the casting of steel. In the new process of melting the metal, it is important to know the exact moment at which to shut down the cover of the furnace; time must be allowed for the escape of the gaseous products which are injurious to the steel, but if that time be prolonged an injurious effect of another kind is produced. To meet this contingency it has been proposed to test the gases as they fly off by means of the spectroscope; and as soon as the particular colour is observed peculiar to the gas which begins to escape at the moment the molten metal is in proper condition, the manufacturer will then have an infallible sign of the proper moment for closing the furnace. It is impossible not to wish success to this ingenious application of a philosophical experiment to practical uses in the wholesale preparation of the material of hardware.

PEPSINE.

This peculiar organic substance is one of the constituents of the gastric juice, and is supposed to play an important part in the function of digestion. The idea of using pepsine obtained from the stomachs of various animals, as a remedy in indigestion and stomach complaints, is not by any means new. Indeed, we thought it had long been exploded; but a notice in *Galignani* of a communication recently received by the French Academy of Medicine, from Mr. Hogg, proves that it is still haunting some medical men.

Mr. Hogg states that when the stomach, from debility or illness, does not produce pepsine in sufficient quantity, the digestion is imperfect and painful. Hence he believes that pepsine, in the hands of the physician, resolves one of the most difficult problems of human physiology. He tells us, that by mixing pure pepsine in a vessel with meat or other aliment the act of digestion is produced in precisely the same manner that it takes place in the stomach of a person in good health. "In the administration of pepsine," Mr. Hogg says, "medical men have experienced great difficulties, inasmuch as this substance, valuable as it is when freshly prepared, becomes entirely inert by exposure to the air. This is due to a kind of fermentation which takes place spontaneously, and which in a short time entirely destroys all the active principle." Powders, syrups, lozenges, wines, &c., have all been employed; but these forms of taking pepsine are open to many objections, for in all the pepsine is continually exposed to the action of the air. Another and decidedly the best form in which to administer this valuable remedy is in pills, formed, as Mr. Hogg recommends, of a nucleus of pepsine immediately

* *Pharmaceutical Journal.* † *Athenæum.*

enclosed in a coating of sugar and balsam of tolu, which prevents any contact with the air. Pepsine will thus retain its virtues unchanged during a long period. Mr. Hogg, in conclusion, expresses his conviction that pepsine is destined to play a most important part among the newer remedies for the relief and cure of those numerous disorders generally classed under the heads of indigestion and stomach complaints.

The directions for preparing pepsine given in *Galignani* are simply unintelligible; we therefore give M. Vogel's formula, from Cooley's *Cyclopædia of Receipts*:—Digest the glandular skin of a hog's stomach, cut into pieces, in cold water for twenty-four hours, then strain off the liquid portion, and repeat the maceration with fresh water; mix the liquors, and add to them dilute solution of acetate of lead; diffuse the precipitate through water, decompose it by a stream of sulphuretted hydrogen, again filter, gently evaporate the filtrate to a syrupy consistence, and add to it an excess of absolute alcohol; collect the bulky precipitate that gradually forms, and carefully dry it by exposure to dry air.

NATHA, AN INDIAN REMEDY.

The Société d'Acclimatation has just received a letter from India, accompanied with a box containing a quantity of seeds of the *Cæsalpinia Bonducella*, a plant which, according to Mr. Hayes, the writer of the letter, is much used there as a specific for intermittent fevers. The Bengalee for this plant is *Natha;* it is a small creeper, producing a nut, the kernel of which is exceedingly bitter, and possesses the quality of Jesuit's bark in an eminent degree, with this exception, that it is aperient rather than the contrary, a valuable property in a tropical climate where the bilious system is so generally affected. One of these seeds reduced to a paste, with three or four pepper-corns, and taken three, four, or five times a day, with the adjunction of Cherettah-tea (*Ophelia Chirata*), is generally found so infallible in its effects, that many European physicians in India have adopted it, and will probably in a few years abandon bark entirely. Cherettah is a kind of gentian which grows on the mountains skirting the course of the Ganges, and may be got at all the bazaars of Bengal; it is a stronger febrifuge than the *Gentiana lutea* of Europe. Native physicians employ *Natha* also as a powerful tonic; they administer it in powder, mixed with spices and castor-oil; externally the seed is applied in cases of hydrocele. At Amboyna it is administered as a vermifuge; the roots are used as a tonic in dyspepsia. In Cochin-China the plant is considered deobstruent, and the oil extracted from the leaves is found useful in paralysis. In Egypt the women make necklaces and amulets with the seeds. The latter are often carried to great distances by the sea, as, for instance, to the coast of Scotland, where they are known as Molucca beans. It is singular that the remarkable virtues of this plant should have remained so long unnoticed, offering as it does a cheap and powerful substitute for Jesuit's bark, which, as every one knows, commands a high price. As this plant thrives in Egypt, Mr. Hayes thinks that it must prosper in Algeria, and even in the south of France.

USE OF THE WEIGHTS AND MEASURES OF THE METRIC SYSTEM IN SCIENTIFIC PURSUITS.*

The Report of the Committee of the House of Commons on Weigh[illegible]d Measures contains decisive evidence on the employment of the metric system in chemistry, natural philosophy, and general science. The examination of Mr. Graham, the Master of the Mint, is as follows:—

Has your attention been directed to the progress of the decimal and metric system in this country?—It has lately, with reference to the use of the system in scientific papers.

Is not the system attended with great advantages?—Yes; and I may say it has superseded in a great measure the ordinary system within the last ten years.

Do our chemists continue to make use of the gramme?—Yes, I may say almost exclusively in scientific papers.

Have they done that voluntarily?—Yes.

They have, therefore, done so from a conviction of the advantages of the system?—Yes.

* *Philosophical Magazine.*

Do you find it also an advantage of the metric system, that its division forms a sort of common language, better understood by scientific men abroad than the old system?—Yes, that is a very great recommendation.

Has it ever come to your knowledge that the French, in consequence of the variation between the English and French systems, neglect the scientific papers which are published in England, in which our own system of national weights and measures is used?—That is certainly the case, and they are frequently not translated, I believe, on that account.

But still the metric system is finding its way in every scientific calculation?—Yes.

Is it the general opinion of scientific men that this is a very desirable change to be carried into effect?—As far as my information goes, it is a very general opinion.

Would you go so far as to say that no scientific man thinks that ultimately any other system is possible?—I believe that scientific men who have considered the subject, and who are in the habit of using the metric system, think so.

Do you observe that the system makes its advance into popular scientific papers which are published?—It is beginning to find a place now in scientific elementary works.

In the scientific papers which you sometimes write yourself, do you use it from a conviction of its convenience?—Yes.

Is it used in papers read before the Royal Society?—It is.

Is it a fact that some years ago its use was objected to by the Royal Society?—I cannot say that it was formally objected to, but it was little used ten or twelve years ago.

Now, on the other hand, is it recommended by the Royal Society to be used in papers read before them?—Not formally; but I believe the English system would not form a recommendation to a chemical paper.

Have you travelled in France?—Yes.

Have you ever had occasion to observe whether English people have great difficulty in acquiring the French metric system in France?—I think not; in fact I was rather struck with the facility with which English ladies made use of it in keeping their accounts.

Do you confirm the opinion of many other witnesses before this Committee, that the adoption of the metric system would be a great international advantage, as well as an advantage for scientific men?—Yes.

From your position and the amount of your scientific pursuits, have you had opportunities of observing its progress, and knowing its value?—Certainly.

Generally, if you were introducing a new system, what unit of weight would you recommend?—The gramme.

You would not recommend any of the old systems of weights?—No.

If you made any change at all, it would be desirable, would it not, to make such a change as would be a uniform change all over the world?—Yes.

The following questions and answers occur in the evidence of Professor Miller, of Cambridge:—

Do you find in your learned pursuits that our present system of weights and measures interferes with scientific investigation in any way?—Not in the least; they are so complicated that it is quite impossible to use them. The balance-makers provide balances made for accurate purposes with decimal weights of some kind. Mr. Robinson used to provide balances with weights of a grain and its decimal subdivisions and multiples. M. Œrtling, one of our best balance-makers at present, also supplies his balances with weights on the metric system, with their decimal subdivisions and multiples.

How long has it been the case that the decimal metric system has been introduced in scientific operations?—As long as I can remember; I should think that since 1830 no chemist ever made use of any weights which were not decimally divided.

So far as scientific investigations are concerned, our present system is useless?—Entirely. I believe I do not know the value of any of the ordinary subdivisions, the scruple and the drachm, for instance.

Do you think the metric system is extending in this country?—All chemists use it by

preference. If you refer to any of our scientific journals, I think you will observe that weights are almost invariably given in grammes, and measures in millimetres.

DIALYSIS: RESEARCHES OF M. ERNEST GUINET.

M. Ernest Guinet has just published an interesting paper on the phenomena of transport through porous bodies.*

After a very brief analysis of Mr. Graham's researches, the author proceeds as follows:—

Having experienced certain difficulties in the use of vegetable parchment, I endeavoured to replace the dialyser by a porous vessel of pipeclay, such as are used for batteries, instead of which it would be better to use shallow vessels. I have repeated most of Mr. Graham's principal experiments, and have made some which appeared impossible with vegetable parchment.

The following are some of them:—

Solution of gum and sugar, in which is immersed a porous vessel containing pure water. At the expiration of twenty-four hours a great part of the sugar has traversed the porous vessel, and is dissolved in the water, which does not contain a trace of gum.

Solution of caramel and of bichromate of potass. The salt traverses the porous vessel alone; the separation is speedily effected. If a drop of the mixed solutions is allowed to fall on a porous vesssel, a brown spot of caramel is obtained, surrounded by a yellow one of bichromate, which shows the more rapid diffusion of the latter salt.

Cotton dissolved in ammoniacal solution of copper. The water in the porous vessel becomes blue from dissolving ammoniacal oxide of copper: the cotton remains on the outside. The evident object of this experiment is to get the cotton in a soluble modification; but as ammoniacal oxide of copper diffuses slowly, I must wait a month to obtain a result. It is clear that this experiment could not be made with vegetable parchment, which is acted on by the ammoniacal copper solvent.

Experiments were made in which water was replaced by other liquids, such as bisulphide of carbon and oil of turpentine.

The diffusibility of different crystalloids in bisulphide of carbon is by no means the same in all cases. Thus, if iodine, sulphur, and naphthaline are dissolved in bisulphide, the two latter pass into a porous vessel full of pure bisulphide much sooner than the former.

If it might be permitted to venture an explanation of the unexpected phenomena discovered by Mr. Graham, it might be said that parchment-paper or porous vessels act as a kind of sieve, through which the more attenuated molecules pass more readily; for the colloids have generally a high equivalent and a considerable atomic volume. The opposite is the case with crystalloids; and the less diffusible of the crystalloids are those which correspond to the greatest atomic volume (taking for this the quotient of the atomic weight by the density, which cannot be exact). Such is iodine, which is less diffusible than sulphur.

THE COLLEGE OF PHYSICIANS AND PHARMACY.†

After a long slumber, the London College of Physicians, a few years ago, awoke to a sense of its position, its opportunities, and, possibly, its responsibilities. Recognised, legally and socially, as the head of the medical profession in England, it had slept on its dignity, while other and younger corporations had made rapid advances over the ground it should have occupied. Aroused at last, however, by the Medical Act of 1858, it has since made vigorous, and so far successful, efforts to recover some of the ground lost by its former apathy or pride. The College has recently begun to license a new order of general practitioners, and, to render the qualification complete, now examines in Surgery.

* *Comptes Rendus* and *Phil. Mag.*

† Extracted from the *Chemical News*, Jan. 3, 1863.

But to what end, some of our readers may ask, who have seen that we have hitherto kept clear of the thorny ground of medical politics, do we call attention to these facts? It is to recommend the College of Physicians to go one step further. At the present time it includes within its pale all branches of medical art but one—pharmacy. At the present time, however, and under its present charter, the College can exercise considerable authority over pharmaceutists and druggists—at all events, in the precinct of London. The censors of the College have the power to visit the shops, to inspect the stock, to examine the druggist as to the composition of the medicines, and even, it would seem, to summon druggists before them, and inflict a fine for the sale of "corrupt" medicines, or for compounding medicines "not agreeable to the prescript or direction given." It would be but a slight modification of this authority if the College were now to exercise a more general and direct control over pharmaceutists. The power we have just mentioned has been allowed to fall into abeyance, and, besides, is hardly in keeping with the spirit of these times. But a far better guarantee for the purity of medicine, and the intelligence of pharmaceutists, might be obtained, if the College were to institute a new order of "Licentiates in Pharmacy," and so include within its authority all degrees of the medical profession. The natural alliance of the physician with the pharmaceutists is very close, but we have no doubt that there are physicians who will stand aghast at our proposal. We shall not stop now to characterize the sentiment which inspires such, nor answer some objections which might be fairly raised. We shall only remark, that pharmacy was a respectable art when surgery was in the hands of barbers and old women, and when physicians, except in so far as they were pharmaceutists as well, were held but of small account. In modern times, too, improvements in pharmacy have quite kept pace with improvements in the practice of medicine. We hope, then, that no false pride will prevent the College of Physicians from carrying out the proposal we submit. To be a "Licentiate in Pharmacy of the College of Physicians" would be an honour which young pharmaceutists would be proud to possess, and for which they would earnestly work. The public, too, would recognise and have confidence in such a diploma; and, lastly, medical men themselves would have a double security that the Licentiate in Pharmacy would not stray from the legitimate province of his business, and occupy the place of the prescriber.

REVIEWS

The English Botany; or, Coloured Figures of British Plants. HARDWICKE, 192, Piccadilly.

THERE are few or no English botanists who have not at one time or other envied the fortunate possessor of a copy of the valuable and standard work of Smith and Sowerby, containing as it does life-size coloured illustrations of every plant indigenous to Great Britain. The extreme cost of this splendid and standard work has, however, hitherto kept it out of the reach of all but the most affluent; fortunately for the working botanists who have not the command of unlimited means, the plates have come into the possession of one of our most enterprising publishers, who is re-issuing the work with the following improvements. There will be a life-size drawing of every British plant, with the details of its internal structure, when requisite; the whole of the illustrations will be fully coloured. Each monthly number will contain twenty-four coloured plates, and twenty-four pages of letter-press, at the cost of five shillings. The letter-press will be edited by Professor Syme, F.L.S.

In addition to the mere technical or scientific details, a good description of the economic and medicinal properties of each plant is given, so that the work becomes especially valuable, not only to the mere scientific student, but to those professional men who desire to become acquainted with the properties of such plants as are likely to be of importance in their pursuits.

To those chemists who wish to possess the power of verifying without a doubt the species of any medicinal plant they are employing, the work is of course invaluable—to all our subscribers we recommend it most strongly. From the circumstance that the whole of the plates are engraved, there is no doubt but that it will be regularly carried on to the conclusion.

We cannot transfer a coloured copy to our pages, therefore we quote the following account of the "Traveller's Joy," as an example of the interesting manner in which the popular and economic description of each plant is given :—

"Common Traveller's Joy, or Old Man's Beard." French, Clématite blanche. German, Steigende Waldrebe.—The scientific name Clematis Vitalba is derived from κλῆμα (Klema), a tendril, from the climbing nature of the species, and Vitis alba, white vine. It is sometimes called Virgin's Bower, which name was given to it by Gerarde in 1597, "by reason of the goodly shadowe which they make with their thick bushing and climing, as also for the beautie of the flowers, and the pleasant savour or scent of the same." This pretty plant is one of the greatest ornaments of our country hedges, with its copious clusters of white blossoms, and succeeding heaps of feather-tailed silky tufts. In some places it is used as fodder for cattle, an acrid juice, which the leaves contain whilst fresh, disappearing after drying. The branches are tough enough to make withes for faggots, for which purpose it is always used in woods where it can be procured. As a medicine, it has had some reputation internally as a remedy for dropsy, and in the form of an infusion for rheumatism. In France, the irritating and vesicating properties of its juice are sometimes turned to account by beggars, who apply it to their skin to produce ulcers and excite compassion. In the same country the twigs are used to make beehives, baskets, &c.; they probably grow stronger in a warm climate. A section of Clematis Wood forms a very interesting object under the microscope; the air-vessels and cells are arranged in a radiate manner, allowing the air to circulate freely through them. This circumstance is turned to account by our village boys, who smoke pieces of the wood, as they do of rattan cane; hence it is sometimes called smoke-wood, and smoking-cane.

The whole work is exceedingly well got up, the paper good, and the colouring of the plates excellent; whilst the cost has been reduced to less than one-half that of the original edition.

In this new, improved, and cheaper dress, the *English Botany* should be on the shelves of every pharmaceutist in the kingdom, and will doubtless find its way into the library of all who aspire to the character of scientific as well as dispensing chemists.

THE MONTH.

LAW AND CRIME.

SIMPSON AND OTHERS, *v.* WILSON AND ANOTHER.

This case came before Lord Chief Justice Cockburn and a mixed jury on the 10th ult. Sir F. Kelly, Mr. Grove, Q.C., Mr. Bovill, Q.C., Mr. Drewry (of the Chancery bar), and Mr. J. A. Russell were for the plantiffs; Mr. Hindmarch, Q.C., and Mr. John C. F. S. Day were for the defendants.

This was an action by the assignees of a patent, sealed on the 13th of July, 1860, and granted to Mr. Henry Medlock, analytical chemist, of Great Marlborough-street, for improvements in the preparation of red and purple dyes. The plaintiffs, Messrs. Simpson, Maule, and Nicholson, are the well-known manufacturing chemists, carrying on their business at the Atlas Works, Newington-butts, and they sued Messrs. Wilson and Co., also manufacturing chemists in Jubilee-street, Mile-end, for an infringement of the patent above-mentioned, which has acquired considerable value by means of its producing the fashionable magenta red and purple colours. It appears that Mr. Edward Chambers Nicholson, one of the plaintiffs, discovered, after many experiments, that these beautiful dyes could be produced by a combination of aniline (a substance extracted from coal-tar) and arsenic acid, but he also found, on provisionally registering his invention, that the same discovery had been made by Mr. Medlock, and patented some short time previously. Under those circumstances he and his partners purchased

Medlock's patent for £2,000, and the claim under that patent was for the manufacturing or preparation of red and purple dyes by treating aniline with arsenic acid, as described in the specification, which was in these terms :—

"I mix aniline with dry arsenic acid, and allow the mixture to stand for some time, or I accelerate the operation by heating it to or near to its boiling point, until it assumes a rich purple colour, and I then mix it with boiling water, and allow the mixture to cool. When cold, it is filtered or decanted. The aqueous solution which passes through the filter contains a red colouring matter or dye, while a tarry substance remains in the filter. This tarry substance, dissolved in alcohol, methylated spirit, or other suitable spirit, furnishes a purple dye. These solutions of colouring matter may be used at once in the process of dyeing, concentrated or diluted, according to the tints required. The mixture of aniline and arsenic acid after being heated may be allowed to cool, and then forms a paste, which may be preserved. When required for use, it is mixed with boiling water, and treated as above described. I have found that the proportion of two parts by weight of aniline to one part by weight of arsenic acid yields a good result; but I do not confine myself to that proportion, as it admits of variation."

Almost the sole question in dispute was, whether the words "dry arsenic acid," in the first line of Mr. Medlock's specification, meant anhydrous arsenic acid, or whether they meant arsenic acid not wet or moist, but having in its constitution certain atoms of water. It was clear that anhydrous arsenic acid, or the acid freed from all atoms of moisture by exposure to heat, would not produce the effect desired when mixed with the aniline, and it was also clear that until the acid possessed as many particles of water as are contained in the constitution of what is popularly termed dry arsenic acid, the effects could not be produced. The evidence was extremely conflicting as to the proper meaning in chemistry of the word "dry," some scientific witnesses stating that it implied the removal of all water in combination, as well as any accidentally present, in which case the specification would be bad; and other scientific men asserting that it meant simply not in a wet or moist state, in which case Mr. Medlock would have accurately described the necessary ingredients in his process. The defendants relied on another point—viz., that the term "dry" was ambiguous, and that the specification was therefore bad. The process of the defendants was to use the arsenic acid in solution when treating it with the aniline, and they contended that as dry arsenic acid was specified in Medlock's patent, their process was not an infringement. But the plaintiffs' counsel argued that any one, knowing the chemicals to be combined, might easily use one in solution and evaporate the surplus water, until it was practically in the same condition as if it had been used in a dry state, and that therefore no patent would be worth one farthing if it could be thus evaded.

The Lord Chief Justice, in summing up, directed the jury not to scan the specification in a spirit of hostile criticism, seeking to find out objections, but in the spirit of men desirous of understanding its meaning, and of using the knowledge which it contained. As to the question of infringement, if they were satisfied that the two processes used by the plaintiffs and the defendants were substantially the same, their verdict would be for the plaintiffs, although it might have the curious result of giving to Mr. Medlock's patent a wider scope than the inventor himself intended, because it was Mr. Medlock's intention to caution the world to use the arsenic acid in a dry and undissolved state, and it was now found that it could be used in solution.

A Juror asked what their verdict ought to be if they were of opinion that the present process, though substantially the same, was an improvement.

The Lord Chief Justice said that no one, by superadding something, could deprive a patentee of his rights. The improvement might be the subject of a separate patent, but the discovery of the improvement would not give any right to use the substantial process without the license of the original patentee.

The jury, having been locked up nearly two hours, and being unable to agree, were discharged without giving any verdict. A full report of the interesting evidence given in this case has been published in the columns of the *Chemical News*.

BOOR *v.* THE LONDON DOCKS.

This case came before the Lord Chief Baron and a special jury, in the Court of Exchequer, on the 8th ult. Mr. Digby Seymour, Q.C., and Mr. Dowdeswell were counsel for the plaintiff; Mr. Giffard and Mr. J. P. Murphy appeared for the defendants.

The plaintiff is a wholesale chemist and druggist at Bishopsgate-street Within, and bought some parcels of opium, varying from 35lb. to 45lb., from a person named Dudley, who is since dead. He had also purchased a parcel of 23½lb. from a person named Crane, a dealer in drugs, in 1861. Both these parcels had been put into boxes and forwarded to Mr. Lindo for sale—the last on the 17th of July, 1861. On the 19th July, Whicher, the detective, accompanied by a person named Robinson, called on the plaintiff, and

interrogated him as to where and from whom he obtained the last parcel. The plaintiff, it appeared, refused to tell—upon principle, as he said to-day. The officers took him to the office of the London Docks, where questions were put to him, but he still refused to give any information. The plaintiff commenced an action against Mr. Lindo to recover the cases of opium, when this issue was directed to be tried by a judge at chambers, and the plaintiff stated that the boxes contained parcels of opium which he had purchased from Dudley and Crane. Dudley, it appeared, occupied a small place, for which he paid 6*s.* a week, and had been, according to the statement of his widow to-day, in the habit of dealing in opium. Some men who had formerly been in the service of the defendants as labourers, at 2*s.* 6*d.* per day, were called, and said that they were sample dealers in drugs, and had upon some occasions sold samples of opium, but not to the plaintiff. A ship called the *Brenda* had brought over a valuable cargo of 101 chests of opium, and according to the statement of Mr. Brooks, an opium broker—a gentleman who enjoys almost the entire monopoly of the trade, whose opinion necessarily carries with it a vast deal of weight and importance, and who was called for the defendants—the cargo of the *Brenda* was the best of the kind that had been exported to this country for years, that the contents of the chest in question were in his judgment identical with the cargo of the *Brenda* in every respect. Mr. Horner, a merchant who had purchased 22 chests of the opium, and who had for many years purchased opium largely, stated that he had formed a very strong opinion that the chest in dispute was the same in quality and description as the chests he had purchased from the *Brenda's* cargo. The cargo was very fine, uniform in its character and in size, as also in the shape of the lump. The defendants had been robbed of a part of the *Brenda's* cargo, and it was contended that the opium in dispute formed a part of the stolen property, and that the company were justified in the course they had pursued.

The jury intimated that they entertained a very strong opinion in favour of the defendants, an opinion in which the learned Lord Chief Baron appeared to join. A verdict was entered for the defendants.

SUSPECTED POISONING BY ARSENIC.

A coroner's jury has returned a verdict of "wilful murder" against John Garner, a grocer of Mareham-le-Fen, Lincolnshire, and Elizabeth, his wife. The bodies of Jemima, the mother, and Hannah, the first wife of Garner, have been exhumed, and the viscera of each have been examined by Dr. Taylor. A considerable quantity of arsenic has been found in the various internal parts. The prisoners will be tried at the next Lincoln assizes.

ATTEMPTED SUICIDE BY POISON.

On the 24th ult., Maria Pearson, aged 30, was charged before Mr. Cooke, at the Worship-street Police Court, with attempting to commit suicide. Dr. Granger Tandy stated that he had been called to No. 23, Gun-street, Spitalfields, where, in an upper back room, he found the prisoner retching violently. A bottle that had contained laudanum, and a small box with oxalic acid in it, were near her. He perceived that she had taken a portion of each, and administered emetics. The acid acted to a certain extent as an antidote to the laudanum, of which she must have taken a considerable quantity. The prisoner said she took the poison in consequence of not having any food. Her husband has been in the hospital a considerable time, and she had been compelled to part with everything for food. Mr. Cooke remanded the unfortunate creature, in order that inquiries might be made about her.

GOSSIP.

Our readers are probably aware that two leading members of the Pharmaceutical Society were supposed to have made use of their knowledge of the secrets in the long looked-for British Pharmacopœia to advance their private interests. The report of the discussion on this matter, published in the Society's Journal, clears away the cloud which hung over these gentlemen. The one it appears had never sold Lin. Bellad. Ph. Brit., but merely a belladonna liniment of his own invention; the latter preparation had, however, been sold in one instance as the Pharmacopœia liniment under a misconception. The other gentleman obtained the real formula from the doctor who prescribed this liniment. Though the matter has been so satisfactorily explained, Mr. Vizer deserves the thanks of the trade for having brought it before the Society.

At the beginning of the month much damage was done by floods in Macclesfield and Congleton. In the shop of Mr. Chapman, chemist, casks of oil were burst, and about 200 gallons lost in the water which flooded the cellar.

A photographer of Boston, U.S., is said to be doing a very profitable business in taking photographs which, in addition to the likeness of the sitter, bear a shadowy impression of the familiar countenance of some deceased friend upon the same plate, who

is supposed to be spiritually present through the mediatory influence of the operator. The secret of the imposture has thus far defied the science and skill of the best photographers of Boston, who are at a loss to account for it.

Grandeau has discovered rubidium in the ashes of the beet, in tobacco, coffee, tea, and raw tartar. The author believes that this metal is one of the more widely distributed elements, and that its presence is not necessarily associated with that of lithium, as might be supposed from the analyses of minerals and mineral waters.

Mr. Joseph Ince suggests that the Pharmaceutical Society should supply from its central laboratory four classes of pharmacopœial preparations, viz., distilled waters, extracts, spirits, and tinctures; as there would then exist a series of definite and reliable preparations within the known reach of every member.

UNITED SOCIETY OF CHEMISTS AND DRUGGISTS.

A General Meeting of the Committee of this Society will be held at the London Coffee House, Ludgate-hill, on Saturday, the 17th inst., at three o'clock in the afternoon. We are requested to state, that as the proceedings will be of an important and interesting character, the Committee will be glad to see any member of the Society who can make it convenient to attend.

NOTES AND REPLIES.

Decoctum Sarsæ Concentratum (F. G.)—To prepare this decoction, 10½ lbs. of Jamaica sarsaparilla are placed in a large and well-cleaned copper boiler, and enough boiling water added to cover the root, which is then left to macerate without boiling for three or four hours, after this it is boiled for about an hour, and the clear liquid drawn off into another clean copper pan; the root (after it has well drained) is then washed with boiling water until the latter runs off scarcely coloured; the washings are added to the decoction, and the whole evaporated as quickly as possible to 6½ pints; it is then set to cool, and rectified spirit of wine, 1½ pint, further added; after agitation the whole is set aside in a well-corked bottle, in a cool place, for a week. In a few days it is usually found as clear and brilliant as brandy, with very little sediment, and will keep for any length of time uninjured. Some manufacturers, instead of washing the root, give it a second and third water, boiling it each time, and evaporating the mixed liquors. *Liquor Sarsæ* is the *Ext. Sarsæ Liq.* of the Pharm. Lond., and the formula need not be given here.

Thallium (J. C. B.)—Mr. William Crookes is undoubtedly the discoverer of this extraordinary metal. His case, containing a specimen of the metal in the form of a black powder, was placed in the International Exhibition nearly three weeks before M. Lamy announced his *discovery* of Thallium to the Société Imperiale of Lille. We will give the history of the new metal in an early number.

Chlorodyne (A non-registered Pharmaceutist.)—As the action has been withdrawn, we do not feel justified in publishing your excellent letter at present.

In reply to many subscribers, we beg to state that Dr. Ogden's formula, which Mr. Towle has adopted, was published in our first volume, and called forth numerous letters from members of the trade.

Compressed Red Precipitate (A Subscriber.)—We will examine the specimen sent, and report upon it.

Concentrated Essence of Camphor (T. H.)—Camphor 1 oz.; rectified spirit 10 oz. (by weight); dissolve. This forms the "Concentrated Essence of Camphor" of the wholesale druggists.

We cannot tell you *how they frost Fir Trees* for Christmas parties. Perhaps some of our readers will supply the formula.

J. Price.—Dr. Hayes, the advertiser to whom you refer, is known to us as a thoroughly scientific and practical dentist. We think you cannot do better. There are several of the same name in the profession.

W. Cottingham.—Thanks for your suggestion. We fear, however, that we shall not be able to carry it out in the present volume.

S. Bramley.—We have handed your letter to one of our contributors, from whom you may expect a reply.

*** We cannot undertake to attend to anonymous communications, or to answer queries through the post.

Correspondence

HISTORY OF BENZOLE AND NITRO-BENZOLE.

18, Rue Dauphine, Paris.

SIR,—According to your usual practice, you will no doubt allow me to offer a few words of refutation to an article, nearly concerning my interest, which I find in the columns of your issue of the 15th December. People finding that my nitro-benzole was so beautiful, there immediately arose a doubt as to its being a genuine production. It is thoroughly genuine. It is no wonder, then, that being the first to manufacture it, I should also be the first to bring it to its present perfection; and if any hesitation should still exist, I shall feel but too happy in sending you a sample.

You openly refuse to acknowledge me as the first discoverer of it.

Indeed, in 1823, and not in 1825, as you say, Faraday discovered benzole, which is the "benzine" of the French; and it was only in 1835, after some correspondence had taken place between him and Mitscherlich, that he called it benzole. Recollect, however, that it is only three months since that this was known, and not until after long and patient researches had been made by Mr. Hofmann. It was Mr. Hofmann himself who proclaimed this, in a memorable lecture entirely consecrated to the manufacturing of aniline.

This discovery of Faraday, not having become public, has been of no practical use to the enormous development of the colours of aniline. On the contrary, it is this new manufacture which has made known the work of Faraday. This last, therefore, ought to feel indebted to it. Further still, were one to seek more diligently, some chemist less illustrious than Faraday might be found, who, anterior to him, had discovered benzole, but with no greater success as regards practical use.

I consider, therefore, the discovery of Faraday to be of no great merit, as far as priority is concerned, seeing that it could not be made practical. Faraday is sufficiently illustrious and renowned, without his name as a great chemist being at all tarnished by the loss of this discovery.

Mitscherlich, in 1825, wrote an entire work on benzine (benzole) extracted from benzoin or benzoic acid. His book has become a standard work, but his benzole was by no means a staple manufacture, and cost 500 times more than the one drawn from the oil of coal-naphtha. The best proof is that we had to wait for thirteen years, until, in 1848, appeared the voluminous work of the late C. Mansfield, showing the application of benzole to manufacturing purposes.

C. Mansfield is without doubt the one that would have the greatest claim to the discovery of benzole in oil of coal-naphtha. I have heard it mentioned that his work was written in the laboratories of Mr. Hofmann, and in compliance with the latter's suggestions.

Mansfield took out a patent in August, 1848, for benzole and nitro-benzole. The patent, which is contained in 80 pages, printed in two numbers of a work on patents, is directed more to the application of benzole for lamp burning. Perhaps he gave his attention entirely to this use of it, for during some years I have sent large quantities of nitro-benzole into England without ever having the slightest annoyance caused me by his patent. Was he not conscious, then, of the importance of the product which he had discovered? In October, 1848, I placed in the hands of the Academy of Sciences, in Paris, a sealed packet enclosing the mode of preparing nitro-benzole. This packet was opened in 1854, to substantiate my rights of priority in France. You will grant me, I trust, that I was not aware of the work of Mr. Mansfield, otherwise I should have had no reason for sending in my specimen; but what assures me completely of my precedence over that great chemist is, that perceiving the value of my discovery, I immediately put it into practice, for use in the perfumery trade, and that during six years I have furnished it to France, England, and Europe in general; that at the Exhibition of 1851 I was the sole exhibitor of this product. The English nation, so thoroughly practical in everything, will readily acknowledge my deserts; they will clearly perceive, that if I had not taken the first steps, the beautiful works of Mansfield would still lie dormant, and perhaps would have shared the same fate as Faraday's benzole, which remained unknown for thirty-nine years.

Allow me, however, in conclusion of this letter, to render a just tribute to Mr. Hofmann in this question of benzole, nitro-benzole, aniline, and its various magnificent colours. In this respect he has done more than any other person alive, either by his own agency or by his advice, ever since 1848 until the present day, and with incomparable reserve and modesty. All rights of priority of invention, both mine and those of others, ought to yield before him.—I am, &c., C. COLLAS, Chemist.

THE OBJECTS OF THE PHARMACEUTICAL SOCIETY.

January 8, 1863.

DEAR SIR,—Any one who takes the trouble to wade through the leading article in the *Pharmaceutical Journal* of this month, will be surprised to find that the advocates of the P. S. are actually making a boast of their weak points: they say, in the last paragraph of the article, "matters of trade are various, but we class them under two heads: the first *private*, affecting us from within; the second *public*, interfering with us from without. Of the first, then, such as early closing, Sunday closing, and competition, we may at once say we take no cognizance, each member must and will use his own judgment." Now it seems to me that a society which does not interest itself in the happiness and well-being of its members, by advocating—not forcing—all movements for their benefit, can never have the sympathy of the mass of our profession. It is quite true that every member will "use his own judgment;" but did it never suggest itself to this sapient pharmaceutical writer, that however independent we are, still we are much influenced by the forcibly expressed ideas of others upon almost any subject, and we often see things differently when they are put before us in a right light? I quite agree with the writer that the P. S. has procured a great boon for its members by the exemption clauses in the Juries Bill (and, by the way, I cannot see that they were much to blame for looking out for number one, and leaving other societies to do the same), and in many other ways they have done good service to the body; but it seems a monstrous presumption, as well as very injurious to their own interest, for a comparatively young and poor society, with only a small *minority* of the trade upon their roll, to mount the pinnacle, and proclaim that they cannot have anything to do with influencing opinion upon such little questions as Sunday trading, trade cutting, &c.; they can now only deal with such great matters as M. P. S. examinations and legislative enactments. Societies, like individuals, often make themselves unpopular and ridiculous when they forsake their plainly indicated path for one which is much above their capabilities, and by which they impair their power of usefulness. If this exponent of the P. S. doctrines is orthodox, it follows that one of the fundamental ideas of the society is diametrically opposed to the ideas entertained by the founders of the United Society; for in looking over their list of objects to be attained by the formation of the society, I find that five clauses refer to private interests, such as a "Benevolent Fund," "Early and Sunday Closing," "Legal Advice to Members," "Register of Businesses and Assistants," "Schools for Children." From the very fact of the U. S. taking an active interest in everything affecting the welfare of its members, arises its great popularity and rapidly increasing numbers. It exercises a powerful persuasive—not compulsory—influence over what are termed our "personal interests," as well as keeping a vigilant watch over our "public interests."

This Pharmaceutical writer, after refusing to have anything to do with the advocacy of early or Sunday closing, hints that the future welfare of chemists must depend upon their own mental and moral culture; and that having thoroughly cultivated their intellect, they will be sure to take a high status. This, I admit, is very true; and I should rejoice greatly to know that the rising generation of chemists were a much more intelligent and learned body than their predecessors, for there is plenty of room for improvement. But allow me to ask the learned writer, how in the name of goodness are men to study and rise in the intellectual scale, if through their carelessness as to *minor regulations*, they are to be kept at the retail counter from five in the morning till bed-time, bearing in mind that the majority of masters refuse to allow books during business hours? If we want intelligent young men, we must give them opportunity for study; and if the P. S. as a body had used their influence, I believe every shop might be closed by eight, thus giving two or three clear hours for study. Again, as to moral status. How is it possible for very high moral standard to be attained by those who spend a great part of the Sabbath in retailing drugs and sundries, which would have been purchased on Saturday, had the customers known that the shop would be closed on Sunday. Many a young man, dependent on his salary, is forced to submit to what he knows is downright Sabbath-breaking; and having so far sacrificed his religious feeling, he cares but little into what other sins he may run. Many hundreds of well-bred gentlemen have been for ever degraded in this way. From the high respectability of the council of the P. S., I should have imagined they would have been foremost in the endeavour to persuade our brethren to sweep such a disgrace from the profession; and I regret much to find it stated, almost officially, that they think such matters too small for their notice.

How can a pure stream be expected from an impure fountain? How can we expect those who are continually engaged at the counter from the time they rise till bed-time again, to make much progress in scientific pursuits? How can it be expected that those who are engaged in Sunday trading will be of very high moral or religious character? Yours, &c.,

QUINTUS.

London, Jan. 13, 1863.

SINCE our last monthly report the trade generally have been stock-taking, consequently the business in Chemicals has been quite of a retail character, at former prices. Business prospects look more cheerful, and should the American war be brought to an early conclusion, all branches of trade will greatly improve. A considerable business was transacted in Tartaric Acid up to the close of last year at lower prices; the market is now quiet at 1*s.* 6½*d.* to 1*s.* 6¾*d.* Citric Acid was also largely purchased at 1*s.* 6½*d.* The market, however, is again quiet at 1*s.* 6½*d.* to 1*s.* 6¾*d.* Oxalic Acid remains quiet at 8¼*d.* to 8½*d.* Several sales of Bichromate have been made at 7*d.* to 7½*d.*, at which prices the demand is again slack. Prussiate of Potass remains dull at 12*d.* Small sales have been made in Sal Acetos at 10½*d.*, which is the former rate. Chlorate of Potass is lower, sales having been made at 13*d.* to 13½*d.* A good business has been done in Iodine at 4¼*d.* to 4½*d.*, according to quality. Large purchases have been made in Alum for the East Indies and the Mediterranean at £7 5*s.*, and now £7 10*s.* is demanded for large casks, with little or no stock on hand. Soda Ash is quiet at 2*d.* to 2½*d.* Soda Crystals are quiet at 92*s.* 6*d.* to 95*s.* per ton, ex ship. Sal Ammoniac is quiet at 37*s.* to 38*s.* for firsts, and 35*s.* to 36*s.* for seconds. Flour of Brimstone is quiet at 12*s.* Sulphate of Copper is in limited demand at 31*s.* 6*d.* to 32*s.* Bleaching Powder is slow at 9*s.* 6*d.* to 10*s.* Cream Tartar is quiet at 117*s.* 6*d.* for the best. A large business has been done in Turpentine at higher prices, say French up to 105*s.* and American 115*s.* to 120*s.* Common Resin is dearer, and sells better; last sales made at 23*s.*, and common American 27*s.* 6*d.* to 28*s.* Large sales were made in refined Petroleum up to 2*s.* 8*d.* to 2*s.* 9*d.*; it is now quiet at 2*s.* 6*d.* per gallon. Crude Pennsylvania is 20*s.* 6*d.* Linseed Oil has continued to improve, owing to speculative purchases, and the last prices paid were 41*s.* 6*d.* on the spot, 40*s.* 9*d.* in Hull, and 38*s.* 6*d.* for the last six months. Rape Oil is also dearer. Pure foreign refined is 52*s.* to 54*s.* Saltpetre is again lower, and dull of sale, owing to large arrivals; refined is easier, 41*s.* 6*d.* to 42*s.* cash f. o. b. Canada Pot and Pearl Ashes are quiet at 35*s.* to 35*s.* 6*d.* per cwt.

In Drugs few sales, and prices are for the most part lower. Camphor has declined to £6, at which price about 150 casks have been sold. About 100 casks mid. and good pale Castor Oil sold at 5½*d.* to 6*d.*, being ¼*d.* cheaper. Oil of Aniseed is 3*d.* lower, 27 casks selling at 5*s.* 3*d.* to 5*s.* 4*d.* Small sales of Oil Cassia made at 9*s.*, which is the previous figure. New Spanish Saffron is quiet at 33*s.* to 34*s.* for good quality. Turmeric is more in request, 25*s.* to 26*s.* have been paid for good Bengal. Gambier is rather dearer, good selling at 21*s.* 6*d.* to 23*s.* Shellac is 2*s.* 6*d.* lower; good and fine orange sold lastly at £9 2*s.* 6*d.* to £9 7*s.* 6*d.* Several small sales of fine Cutch have been made at 27*s.*

PRICE CURRENT.

☞ *These quotations are the latest for* ACTUAL SALES *in Mincing Lane. It will be necessary for our retail subscribers to bear in mind that they cannot, as a rule, purchase at the prices quoted, inasmuch as these are the* CASH PRICES IN BULK. *They will, however, be able to form a tolerably correct idea of what they ought to pay.*

	1863.			1862.		
	s.	d.	s. d.	s.	d.	s. d.
ARGOL, Cape, pr ct.	85	0	100 0	105	0	170 0
French	40	0	..60 0	60	0	..85 0
Oporto, red	45	0	..47 0	45	0	.. 0 0
Sicily.....	70	0	..78 0	65	0	..80 0
Naples, white.....	65	0	..80 0	65	0	..80 0
Florence, white ...	90	0	97 0	90	0	100 0
red.....	80	0	..85 0	85	0	..87 6
Bologna, white....	110	0	115 0	115	0	120 0
ARROWROOT,						
duty 4½ per cwt.						
Bermuda ...per lb.	1	2	.. 1 8	0	11	.. 1 4
St. Vincent.....	0	4	.. 0 7	0	2½	0 5½
Jamaica.....	0	4½	.. 0 6	0	2½	0 4
Other West India.	0	4	.. 0 5½	0	2½	0 3¾
Brazil.....	0	2	.. 0 3	0	1½	0 2
East India.....	0	2½	.. 0 4	0	1½	0 2½
Natal.....	0	4½	.. 0 9½	0	2½	0 6
Sierra Leone.....	0	3	.. 0 3½	0	2½	0 3
ASHES.....per cwt.						
Pot, Canada, 1st sort	35	6	.. 0 0	39	0	.. 0 0
Pearl, do. 1st sort.	35	0	.. 0 0	39	0	..40 0

	1863.			1862.		
	s.	d.	s. d.	s.	d.	s. d.
BRIMSTONE,						
rough.....per ton	125	0	137 6	160	0	.. 0 0
roll.....	200		220 0	270	0	280 0
flour.....	245		250 0	315	0	340 0
CHEMICALS,						
Acid—Acetic, pr lb	0	3½	.. 0 4½	0	4	.. 0 4½
Citric	1	6½	.. 1 6¾	1	9	.. 1 9½
Nitric	0	4	.. 0 5	0	3½	0 4
Oxalic	0	8	.. 0 8½	0	8½	0 10
Sulphuric	0	0¾	.. 0 0	0	0½	0 0
Tartaric crysti	1	6¼	.. 1 6½	1	8½	1 9
powdered.	1	7	.. 1 7½	1	9	.. 0 0
Alum .....per ton.	140	0	145 0	135	0	140 0
powder	0	0	0 0	150	0	.. 0 0
Ammonia. Crb. lb.	0	5¼	.. 0 6	0	5½	0 6
Sulphate per ton	290	0	310 0	270	0	290 0
Antimony, ore	200	0	230 0	320	0	340 0
crude, per cwt	24	0	..28 0	26	0	..28 0
regulus	43	0	..43 6	49	0	.. 0 0
French star...	43	0	.. 0 0	47	0	.. 0 0
Arsenic, lump....	17	6	..18 6	17	0	..18 6

PRICE CURRENT—*continued.*

CHEMICALS.	1863. s.	d.	1862. s.	d.
Arsenic powder ..	6	6 .. 7	0	8 6..10 0
Bleaching Powder.	9	0 ..10	0	8 6.. 9 6
Borax, E. I. refnd	52	6 .. 0	0	0 0.. 0 0
British.....	50	0 ..52	0	£4 6..65 0
Calomel....per lb.	2	1 .. 0	0	2 10.. 0 0
Camphor, refined.	2	6 .. 0	0	2 6.. 2 9
Copras. grn. pr. tn.	62	6 .. 0	0	65 0.. 0 0
Crrsiv. Sublmte. lb	1	11 .. 0	0	1 11.. 2 0
Green Emrld.pr.lb	0	0 .. 0	0	0 9.. 0 11
Brunswk. cwt.	0	0 .. 0	0	14 0..42 0
Iodine, dry, pr. oz.	0	4½.. 0	4½	0 4½ 0 5
Magnesia Crbn. ct.	42	6 ..45	0	42 6..45 0
Calcined, lb...	1	6 .. 1	8	1 6.. 0 0
Minium red,pr.ct.	22	0 ..22	6	22 6..23 0
orange.....	32	0 ..33	0	35 0.. 0 0
Ptsh. Bichrom. lb.	0	7½.. 0	8	0 8½ 0 8¾
Chlorate	1	1 .. 0	0	0 10½ 0 0
Hydriodate oz.	0	5 .. 0	5½	0 5 0 5½
Prussiate ..lb.	1	0 .. 1	0½	1 0¾ 1 1
red..	2	1 .. 2	2	2 2.. 0 0
Precipit. red pr. lb	2	9 .. 0	0	2 9.. 2 10
white...	2	9 .. 2	10	2 10.. 0 0
Prussian Blue.....	1	0 .. 1	10	1 6.. 1 10
Rose Pink....pr ct.	29	0 ..30	0	29 0..30 0
Sal-Acetos...pr lb.	0	10½.. 0	0	0 10½ 0 11
Ammoniac, ct. British...	35	0 ..38	0	32 6..33 0
Epsom.....	8	0 .. 8	6	8 3.. 8 6
Glauber	5	0 .. 5	6	5 6.. 0 0
Soda, Ash, pr deg..	0	2 .. 0	2⅜	0 2⅛ 0 2⅜
Bicarbonate..ct.	12	0 ..12	6	12 0..13 0
Crystals per ton.	92	6 ..95	0	92 6..95 0
Sgr. Lead,white, ct.	37	0 .. 0	0	37 0..38 0
brown.....	25	0 .. 0	0	28 0.. 0 0
Silphte. Quinine oz Britsh in bttl.	6	9 .. 0	0	6 6.. 6 9
Foreign	6	3 .. 6	6	5 9.. 6 0
Sulpht. Zinc..cwt.	14	0 ..15	0	14 0..15 0
Verdigris..... lb.	1	1 .. 1	3	1 3.. 1 5
Vermilion, English	2	8 .. 3	1	3 0.. 3 4
China ..	2	2 .. 2	4	2 0.. 2 2
Vtrl. blue or Romn. per cwt.	32	9 ..33	0	35 0..36 0
COCHINEAL, pr. lb.				
Honduras, black..	2	8 .. 4	2	2 8.. 4 3
silver...	1	4 .. 3	4	1 4.. 3 4
Mexican, black...	2	7 .. 3	0	2 5.. 2 10
silver ..	2	6 .. 2	7	2 3.. 2 5
Lima	2	8 .. 3	2	2 7.. 3 1
Teneriffe, black ..	2	7 .. 3	4	2 8.. 3 4
silver ..	2	6 .. 2	8	2 7.. 2 9
DRUGS,				
Aloes, Hepatic, ct.	180	0 .. 200	0	130 0 160 0
Socotrine ..	180	0 .. 480	0	150 0 480 0
Cape, good....	45	0 ..51	0	38 0..42 0
inferior.	26	0 ..40	0	20 0..36 0
Barbadoes....	60	0 .. 380	0	60 0 420 0
Ambergris, gray. per oz..	22	0 .. 25	0	35 0..38 0
Angelica Root, ct..	20	0 .. 35	0	20 0..35 0
Aniseed, China str.	105	0 .. 110	0	65 0..75 0
German, &c.	19	0 .. 38	0	22 0..42 0
Balsam Canada, lb	1	3 .. 0	0	1 3.. 0 0
Capivi.....	1	6 .. 1	7	1 8.. 1 9
Peru.....	5	0 .. 0	0	4 7.. 4 8
Tolu	4	3 .. 4	6	3 4.. 3 7
Bark Cascarilla ct.	23	0 .. 40	0	24 0..45 0
Peru crown & grey per lb	1	0 .. 2	4	1 2.. 2 6
Calisaya. flat...	3	3 .. 3	6	3 6.. 3 9
quill....	3	0 .. 3	3	3 2.. 3 4
Carthagena...	1	3 .. 2	6	0 10.. 2 0
Pitayo.....	1	10 .. 2	9	1 6.. 2 2
Red	2	6 .. 7	6	2 0.. 6 0
Bay Berries, pr ct..	22	0 ..40	0	22 0..40 0
Bucca Leaves, lb.	0	2½.. 1	0	0 3.. 1 3
Camomile Flowers	40	0 ..75	0	40 0..90 0
Camphor, China ..	120	0 .. 0	0	200 0 210 0
Canella Alba.....	19	0 ..40	0	19 0 .40 0
Cantharides, pr lb.	2	3 .. 2	6	2 0.. 2 2
Cardamoms, Malbar. good.....	6	9 .. 6	10	4 9.. 4 11

DRUGS.	1863. s.	d.	1862. s.	d.
Cardamoms,inferior	5	8 .. 6	6	4 0.. 4 8
Madras..	3	2 .. 5	10	3 4.. 4 9
Ceylon..	4	9 .. 5	0	4 0.. 4 6
Cassia,l'istula pr ct.	15	0 .. 60	0	13 0..23 0
CastorOil,1stpale,lb	0	6½.. 0	6½	0 6 0 6½
second.....	0	5½.. 0	5½	0 5½ 0 5½
infr. & dark	0	5½.. 0	5½	0 5¼ 0 5½
Bombay. in csks.	0	0 .. 0	0	0 4.. 0 4½
Castorum	1	2 ..26	0	1 0..26 0
China Root, pr ct.	10	0 ..15	0	10 0..12 0
Coculus Indicus ..	10	0 ..12	0	14 0..15 0
Cod-liver Oil, gal...	4	2 .. 6	0	5 0.. 6 3
Cleyuth. apple, lb..	0	8 .. 1	0	0 8.. 1 2
Colombo Rt. pr ct..	15	0 ..48	0	15 0..48 0
Cream Tartar,pr ct. French	117	6	0	125 0 127 6
Venetian	120	0	0	127 6 130 0
grey	110	0	0	115 0 120 0
brown.....	100	0	105	105 0 110 6
Croton Seed	45	0 ..60	0	90 0 105 0
Cubebs	115	0	120	0 135 0 140 0
Cummin Seed	36	0 ..38	0	45 0..55 0
Dragon's bld. reed.	200	0	250	0 200 0 240 0
lump...	90	0	260	0 170 0 200 0
Galangal Root....	24	0 ..32	0	20 0..28 0
Gentian Root	21	0 ..22	0	19 0.. 0 0
Guinea Grains, ... per cwt.	47	0 ..52	0	48 0..52 6
Honey, Narbonne.	60	0 ..84	0	60 0..85 0
Cuba	24	0 ..36	0	28 0..36 0
Jamaica	26	0 ..75	0	30 0..80 0
Ipecacuanha,pr.lb.	7	3 .. 7	6	6 0.. 6 9
Isinglass, Brazil...	0	10 .. 3	10	0 9.. 3 10
East India.....	0	9 .. 3	0	0 6.. 3 2
West India	3	0 .. 3	0	3 0.. 3 9
Russian.....	9	6 ..13	0	11 6..13 0
Jalap	1	0 .. 4	10	1 6.. 4 9
Juiper Berriescwt. German & Frnch	8	0 .. 9	0	9 0..10 0
Italian	8	0 ..10	0	10 0..12 0
LmonJuice,pr deg.	0	0½.. 0	0	0 0¾ 0 1
Liquorice, per cwt. Spanish	83	0 ..90	0	83 0..90 0
Italian	85	0 ..95	0	85 0..95 0
Manna, flaky	2	0 .. 2	6	2 6.. 3 0
small	1	6 .. 1	9	1 6.. 1 9
Musk.....per oz.	20	0 .. 28	0	20 0..33 0
Nux Vomica.....	8	0 .. 8	6	8 0.. 9 0
Opium, Turkey ..	16	0 .. 29	0	14 0..15 6
Egyptian..	7	0 .. 13	6	6 0..13 6
Orris Root, pr cwt.	26	0 .. 28	0	27 0..29 0
Pink Root,per lb..	3	0 .. 3	3	1 9.. 2 2
Quassia(bit.wd)ton	90	0 .. 100	0	70 0..80 0
Rhatania Root, lb.	0	9 .. 1	3	0 9.. 1 0
Rhbrb. China,rnd.	1	9 .. 4	6	0 9.. 3 0
flat	2	2 .. 4	8	3.. 3 2
Dutch, trmd.	5	0 .. 5	6	3 0.. 3 6
Russian	11	6 ..13	0	11 6.. 0 0
Saffron, Spanish ..	34	0 ..35	0	55 0..57 0
Salep ....per cwt.	140	0 .. 170	0	170 0 190 0
Sarsaparilla, Lima	0	10 .. 1	5	0 10.. 1 4
Para	0	9 .. 1	2	0 10.. 1 3
Honduras.	0	8 .. 1	4	0 11.. 1 6
Jamaica..	1	1 .. 2	3	1 3.. 2 2
Sassafras..per cwt.	11	0 ..12	0	12 0..13 0
Scammony, per lb. virgin	27	0 ..34	0	28 0..34 0
second ..	14	0 ..24	0	14 0..24 0
Seneka Root.....	4	0 .. 4	9	2 2.. 2 3
Senna, Calcutta ..	0	1½.. 0	2½	0 1½ 0 2½
Bombay	0	2½.. 0	4½	0 2½ 0 3
Tinnevelly..	0	4 .. 1	2	0 2½ 1 2½
Alexandria	0	3 .. 0	6	0 4.. 0 6½
Snake Root	2	3 .. 0	0	1 8.. 1 9
Spermaceti, refined	1	0 .. 1	1	1 0.. 1 1
Squills	0	1 .. 0	2	0 1.. 0 0
Tamarinds, E. Ind.	10	0 ..18	6	9 6..12 0
W.I.per cwt.	18	0 ..34	0	15 0..32 0
Valerian Root, Eng	20	0 ..40	0	20 0..40 0
Terra Japonica— Gambier, cwt ..	21	0 ..23	0	17 0..18 0
Cutch, cwt	24	0 ..26	0	23 0..24 6

PRICE CURRENT—*continued.*

DRUGS	1863. s.	d.	s.	d.	1862. s.	d.	s.	d.
Vanilla, Mexican lb	23	0	.55	0	20	0	.50	0
Wormseed, pr cwt.	2	0	..	0	2	0	..	0
GUM .... per cwt.								
Ammoniac, drop..	100	0	120	0	70	0	105	0
lump ..	15	0	.65	0	15	0	.40	0
Animi fine pale ..	220	0	230	0	210	0	310	0
bold amb e	200	0	220	0	260	0	270	0
medium..	170	0	180	0	160	0	180	0
small & dark	100	0	125	0	100	0	160	0
ordinry dark	40	0	.80	0	40	0	.90	0
Arab. E. I. f. palepkd	52	0	.59	0	52	0	.57	0
unsorted, good to f	32	0	.48	0	36	0	.48	0
red and mixed	20	0	.30	0	28	0	.34	0
siftings	0	0	..	0	18	0	.23	0
Turkey, pkd. gdto f.	115	0	180	0	110	0	145	0
second & infr.	40	0	110	0	42	0	105	0
in sorts	32	0	.50	0	30	0	.43	0
Gedda.....	26	0	.27	0	26	0	.28	0
Barbary, white ..	36	0	.50	0	32	0	.34	0
brown ..	27	0	.28	0	26	0	.28	0
Australian.....	28	0	.30	0	16	0	.18	0
Assafet. fr. to gd.	30	0	115	0	16	0	.95	0
Benjamin, lst. qual.	400	0	580	0	360	0	660	0
2nd qual	280	0	400	0	160	0	330	0
3rd ,,	50	0	190	0	60	0	150	0
Copal, Angola red.	95	0	100	0	100	0	125	0
pale.	95	0	100	0	95	0	105	0
Bengnela....	85	0	100	0	105	0	140	0
Sierra Lne lb	0	7	..	1	0	7	..	1
Manilla pr ct	20	0	.42	0	14	0	.40	0
Dammar ple. pr ct	45	0	.50	0	30	0	.54	0
Galbanum.....	100	0	120	0	140	0	160	0
Gmbge. pkd. pipe	140	0	210	0	140	0	180	0
in sorts.....	80	0	120	0	80	0	110	0
Guaiacum .. pr. lb.	0	6	..	1	0	7	..	1
Kino .. per cwt.	100	0	120	0	160	0	200	0
Kowrie.....	34	0	.39	0	18	0	.23	0
Mstic. pkd. pr lb..	5	0	..	5	3	6	..	7
Myrrh gd & fi pr ct	160	0	200	0	160	0	180	0
sorts.....	70	0	150	0	110	0	130	0
Olibanum, pl. drop	55	0	.67	6	56	0	.67	0
ambr & yel.	45	0	.64	0	44	0	.55	0
mixd. & dk.	10	0	.30	0	12	0	.35	0
Senegal	40	0	.46	0	38	0	.44	0
Sandrac.....	85	0	105	0	80	0	105	0
Tragacanth, leaf..	180	0	320	0	180	0	330	0
in sorts.	100	0	130	0	100	0	130	0
OILS.....per tun.	£	s.	£	s.	£	s.	£	s.
Seal	42	0	.47	10	35	0	.41	0
Sperm, body.....	85	0	.89	0	95	0	.96	0
Cod	46	10	.47	0	40	10	.41	0
Whale, Greenland.	0	0	..	0	0	0	..	0
8th Sea pale	43	0	.44	0	35	10	.36	0
E. I. Fish...	38	10	.39	0	30	10	.32	10
Olive, Galipoli, ton.	66	0	.67	0	66	0	.67	0
Florence, 1-chst.	1	0	..	1	2	0	..	2
Cocoant. Cochn. tn	57	0	.58	0	49	6	..	0
Ceylon	52	0	..	0	48	6	..	0
Sydney	48	0	.54	0	43	0	.48	0
Ground Nut & Gin.								
Bombay.....	48	0	..	0	42	0	.43	0
Madras	50	0	..	0	44	0	.45	0
Palm, fine.....	40	0	.40	10	41	10	..	0
Linsced	40	15	..	0	33	15	.34	0
Rapeed. Engl. pale	52	10	..	0	45	0	..	0
brown....	50	0	..	0	43	0	..	0
Foreign do ..	53	10	.54	0	46	0	..	0
brown	50	10	.51	0	44	0	..	0
Lard	47	0	..	0	55	0	..	0
Tallow	39	0	.40	0	37	0	..	0
Rock Crude	13	6	.20	6	0	0	..	0
OILS, Essential—	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
Almond essen. lb.	19	0	..	0	19	0	..	0
expressed..	0	0	..	0	0	0	..	0
Aniseed	5	3	..	5	4	6	3.	6
Bay .....pr cwt.	110	0	120	0	0	0	..	0
Bergamott pr lb.	5	6	.12	0	6	6	.14	0
Cajeputa, bond, oz.	0	2½	..	3	0	1½	0	1½
Caraway ....pr lb.	4	3	..	6	4	3	..	6
Cassia	0	0	..	0	9	0	..	0
Cinamon (in b), oz.	1	6	..	4	0	1	3.	4
Cinnamon Leaf...	0	3	..	0	4½	0	2.	0
Citronel.....	0	7½	..	0	7s	0	4½	0

OILS.	1863. s.	d.	s.	d.	1862. s.	d.	s.	d.
Clove	0	1	..	0	4	0	4	0
Croton	0	0	..	0	0	0	3	0
Juniper ....per lb.	1	10	..	3	0	1	10.	4
Lavender	2	6	..	4	6	2	6.	5
Lemon	4	0	..	9	6	5	0.	10
Lemongrass, pr oz	0	6½	..	0	7	0	5	0
Mace, ex	0	1½	..	0	2	0	1½	0
Neroli	5	0	..	7	0	6	0.	9
Nutmeg	0	1½	..	0	2	0	1½	0
Orange ....per lb.	5	0	..	6	6	6	6.	7
Otto Roses, per oz.	14	0	..	23	0	16	0.	26
Peppermint, pr lb.								
American	8	6	..	12	9	7	6.	14
English	33	0	..	34	0	33	0.	38
Rhodium ..per oz.	3	6	..	5	6	3	9.	6
Rosemary ..per lb.	1	8	..	3	0	* 1	10.	3
Sassafras	3	0	..	3	6	3	6.	4
Spearmint.....	5	0	..	9	0	5	0.	12
Spike	1	3	..	1	6	1	3.	1
Thyme	1	9	..	2	3	1	9.	2
PITCH, Brtsh. pr cwt.	12	0	..	0	0	7	0.	0
Swedish	0	0	..	0	0	10	6.	0
SALTPETRE, pr cwt.								
Bngl. & p. c. or under	38	0	..	39	0	39	6.	40
over 6 per cent.	37	0	..	37	6	37	0.	39
Madras	35	0	..	37	0	37	0.	39
Bombay	32	0	..	37	0	36	0.	38
British-refined....	41	0	..	42	0	42	0.	43
Nitrate of Soda ..	13	6	..	14	0	13	6.	14
SEED, Canary, pr qr.	40	0	..	56	0	40	0.	50
Caraway, fine, p. c.	0	0	..	0	0	23	0.	25
* German, &c	28	0	..	34	0	0	0.	0
Coriander	10	0	..	12	0	15	0.	17
East India.....	0	0	..	0	0	0	0.	0
Hemp	40	0	..	44	0	48	0.	56
Linseed, Black Sea	62	6	..	63	6	60	0.	61
Calcutta	63	0	..	66	0	61	0.	63
Bombay	68	0	..	70	0	66	0.	0
Egyptian	60	0	..	61	0	58	0.	59
Mustard, brn, p. bshl	7	0	..	10	0	8	0.	10
white..	7	0	..	8	6	6	0.	9
Poppy, E.I. pr qr.	60	0	..	61	0	58	0.	0
Rape, English	0	0	..	0	0	0	0.	0
Danube	0	0	..	0	0	0	0.	70
Calcutta, fine ..	65	0	..	0	0	64	0.	0
Bombay.....	67	0	..	75	0	68	0.	70
Teel, Sesme or Gngy	65	0	..	71	0	62	0.	66
Cotton ....per ton	180	0	..	0	0	150	0.	160
Gnd. Nut Kriels, tn	330	0	..	350	0	340	0.	350
SOAP, Lnd. yel. pr cwt.	21	0	..	26	0	21	0.	26
mottled	36	0	..	38	0	34	0.	36
curd.....	50	0	..	0	0	50	0.	0
Castile	38	0	..	41	0	37	0.	40
Marseilles	40	0	..	42	0	40	0.	42
SOY, China, per gal.	2	0	..	2	8	2	1.	2
Japan	0	10	..	1	0	0	8.	0
SPONGE, Turk. f. pkd	20	0	..	24	0	20	0.	24
fair to good	8	0	..	18	0	8	0.	18
ordinary..	3	0	..	6	0	3	0.	0
Bahama ..	0	4	..	1	3	0	3.	1
TURPENTINE,								
Rough..per cwt.	0	0	..	0	0	22	0.	0
Spirits, English ..	0	0	..	0	0	0	0.	0
American, in casks	120	0	..	0	0	70	0.	0
WAX, Bees, English	172	0	..	175	0	165	0	170	0
German	162	6	..	180	0	160	0	165	0
American	165	0	..	175	0	180	0	200	0
white fine	0	0	..	0	0	200	0	215	0
Jamaica	165	0	..	175	0	180	0	190	0
Gambia	170	0	..	177	6	180	0.	0	0
Mogadore	120	0	..	160	0	125	0	150	0
East India.....	140	0	..	170	0	150	0	170	0
ditto, bleached..	170	0	..	220	0	150	0	210	0
vegetable, Japan..	70	0	..	85	0	50	0.	75	0
WOOD, DYE, per ton,								
Fustic, Cuba	140	0	..	155	0	160	0	170	0
Jamaica	120	0	..	0	0	115	0	120	0
Savanilla	100	0	..	105	0	105	0	110	0
Zante	165	0	..	0	0	140	0	180	0
Logwood, Cmpchy	180	0	..	190	0	180	0	0	0
Honduras	140	0	..	155	0	130	0	0	0
St. Domingo. ..	105	0	..	110	0	120	0	135	0
Jamaica	102	6	..	105	0	120	0	125	0

The abriged Specifications of Patents given below are prepared specially for this Journal by Mr. R. A. Brooman, from official copies supplied by the Government, and are therefore the property of the Proprietor of this Journal. Other papers are requested not to reproduce them without acknowledgment :—

1084. A. V. Newton. *Improvements in the manufacture of blasting powder.* (A communication.) Dated April 15, 1862.

The patentee claims, first, the use of nitrate of baryta, obtained in the manner described, or in any other suitable manner, as a substitute (either partial or total) of nitrate of potash in the preparation of blasting powder, in the manner and for the purpose set forth. Secondly, the use, for the manufacture of blasting powder, of the nitrates of strontian and lead as substitutes for saltpetre. *Patent completed.*

1090. T. W. Gray. *Improvements in the manufacture of explosive compounds.* (A communication.) Dated April 15, 1862.

Here ordinary cotton is used, by preference, cotton being a liguin substance, a compound of carbon (C), hydrogen (H), and oxogen (O), the chemical formula of which, expressed in equivalents, is C 12, H 10, O 10. By subjecting cotton, and most of the liguin substances of the above formula, to the action of nitric acid in a peculiar manner, a new element (nitrogen) enters into the composition, forming an explosive compound of the chemical formula, C 12, H 7, N 3, O 22, which may also be expressed

$$C\ 12 \left\{ \frac{H\ 7}{3\ N\ 0{\cdot}4} \right\} O\ 10.$$

Patent completed.

1107. W. E. Newton. *An Improvement in setting artificial teeth.* (A communication.) Dated April 16, 1862.

This consists in a certain mode of combining the teeth with a gold platinium, or other metallic plate, by means of india-rubber or other vulcanized gum, whereby all soldering and riveting, by which the plate is liable to be warped, is dispensed with. The metal is also prevented from oxidizing, and the gum when vulcanized is made to serve as a means of strengthening and preserving the form of the plate. *Patent completed.*

1115. C. D. Abel. *Improvements in the manufacture and production of the chromates and the bichromates of potash and of soda.* (A communication.) Dated April 17, 1862.

This consists in substituting sulphate of potash and sulphate of soda for the carbonates and nitrates of these bases as used at present in the manufacture, respectively, of the bichromate of potash and of the bichromate of soda. *Patent abandoned.*

1127. C. D. Abel. *Improvements in the manufacture and production of certain alloys, containing cadmium.* (A communication.) Dated April 17, 1862.

This consists in the formation of alloys of gold, silver, and copper with cadmium. The alloys of silver, copper, and cadmium, besides being useful for various other purposes, are particularly adapted for forming into wire by drawing on account of their great ductility. The alloys of gold, copper, and cadmium are applicable to the manufacture of wire by drawing, and to jewellery generally. *Patent completed.*

1184. A. Hodgkinson. *A mixture or composition to be used in the process of boiling, preparing, or bleaching vegetable substances, whether they are in the manufactured or unmanufactured state, which mixture may also be used in the manufacture of soap.* Dated April 23, 1862.

This consists of any oil or distillation of wood or coal, or stone, or petroleum or rock oil, or paraffine, in combination with lime or caustic soda, or common soda-ash. The patentee proposes to use the oil in the proportion of one to one and a half or two gallons, in combination with any of the above alkalies, in a solution of a strength or density to stand from two to four degrees of Twaddle's hydrometer, varying the strength according to the quality of the fabric to be operated upon. The mixture may be used as a soap if required, or it may be added to the alkaline, resin, and fatty matters ordinarily used in the manufacture of soap.—*Patent completed.*

Linamentum Belladonna.—Pharm. Brit.—Our contemporary, the *Chemical News*, gives the formula for this now celebrated preparation as follows :—Belladonna-root in powder, 16 ounces ; alcohol sufficient to make 16 ounces of concentrated tincture ; to each pint of which 1 ounce of camphor is to be added.